

CURRICULUM VITAE: SHAARON ELIZABETH AINSWORTH

EMPLOYMENT

CURRENT Associate Professor in the School of Psychology and Principal Investigator in the Learning Sciences Research Institute. University of Nottingham

EMPLOYMENT HISTORY

- 1992 – 1997 Research Associate, Centre for Research in Development, Instruction and Training. School of Psychology, University of Nottingham.
- 1997 – 1999 Research Fellow, Centre for Research in Development, Instruction and Training, School of Psychology, University of Nottingham.
- 2002 – present Principal Investigator, Learning Sciences Research Institute, University of Nottingham
- 1999 – 2004 Lecturer, School of Psychology. University of Nottingham.
- 2004 – 2005 Senior Lecturer, School of Psychology. University of Nottingham.
- 2005 – present Associate Professor, School of Psychology. University of Nottingham (maternity leave 2007).

EDUCATION

- 1991 B.Sc. (Hons). First Class, Psychology, University of Portsmouth, Dissertation Title: A Production System Model of Children's Multiplication Behaviour (awarded the John Denis Prize).
- 1993 M.Sc. Knowledge Based Systems, University of Sussex, Dissertation Title: COPPERS: A Mathematical Microworld for Multiplication. Supervisor Ben du Boulay
- 1997 Ph.D. University of Nottingham, Designing and Evaluating Multi-Representational Learning Environments for Primary Mathematics. Supervisor David Wood.

RESEARCH ACTIVITIES

GRANTS

- 2011 – 2013 Using gestures to understand the invisible. PI Melanie Cooper. Col Shaaron Ainsworth, Minyoung Song, National Science Foundation, \$6,000
- 2008 – 2010 Revealing Nature, Generating Insight: Gordon Conference, Workshops & Visionary Grants to Guide Research in Science and Education. PI Art Olson. National Science Foundation, Col Shaaron Ainsworth \$238,000
- 2007 – 2011 PI. Designing for Evidence-based Inquiry Learning across Formal and Informal Settings. Prof Mike Sharples PI, Shaaron Ainsworth Col + 6 further investigators) ESRC £1.1 Million
- 2006 – 2010 Understanding the Tree of Life. PI Teresa MacDonald + 8 other Cols. Shaaron Ainsworth External Collaborator, National Science Foundation, \$250,000
- 2005 – 2008 LEAD. Technology-Enhanced Learning and Problem-Solving Discussions: Networked Learning Environments in The Classroom. EU 6th Framework (Coordinating Site Utrecht: Nottingham Site: PI Shaaron Ainsworth). €2,500,000 (246,000 Nottingham)
- 2005 – 2007 British German Academic Research Collaboration Programme. British Council. £2250.
- 2005 – 2010 CETL: Visual Learning Lab (Prof Roger Murphy & Dr Do Coyle PIs, + Shaaron Ainsworth Co-I + 8 other Co PIs), HEFC. £2,200,000

- 2004 – 2008 Understanding new forms of digital record for e-social science (Prof Tom Rodden PI, & Shaaron Ainsworth Col + 5 other Co PIs). ESRC. £598,163.
- 2002 – 2003 Impact of distributing information over multiple representations on problem-solving and learning, PI Shaaron Ainsworth, EPSRC, £61,000.
- 2001 – 2002 Creating Intelligent Tutoring Systems for Higher Education from Existing Web-based Material, PI Shaaron Ainsworth, University of Nottingham, £27,000.
- 1999 Communication in Learning to Model in Science and Mathematics, Training and Mobility of Researchers Award – EU.
- 1999 – 2003 Cost-effectiveness of REDEEM-enhanced computer-based training, PI Shaaron Ainsworth, Office of Naval Research, \$290,000.
- 1997 Visiting Scientist Fellowship, Office of Naval Research (Europe), \$6000
- 1995 Junior Scientist Fellowship, European Science Foundation - Learning in Human and Machines.

Total income as Pi and Col approximately £4,510,977

PRINCIPAL PUBLICATIONS (highlights indicated with *)

- Ainsworth, S.E**, Prain, V., & Tytler, R. (2011) Drawing to learn in science. *Science*, 333(6046), 1096-1097 * Impact factor = 31*
- Ainsworth, S.E**, Gelmini-Hornsby, G., Threapleton, K., Crook, C., O'Malley, C., & Buda, M. (2011) Anonymity in classroom voting and debating. *Learning and Instruction*, 21(3), 365-378.
- Anastopoulou, S., Sharples, M., **Ainsworth, S.**, Crook, C., O'Malley, C., and Wright, M. (2011) Creating personal meaning through technology-supported science inquiry *International Journal of Science Education* 34(2), pp. 251–273.
- Bival, P., **Ainsworth, S.E.** & Tibell, L. (2011). Do haptic representations help complex molecular learning. *Science Education* 95(4) 700-719.
- Gelmini-Hornsby, G., **Ainsworth, S.E.** & O'Malley, C. (2011) Guided reciprocal questioning to support children's collaborative storytelling. *International Journal of Computer-Supported Collaborative Learning*, 6(4) 577-600.
- Habgood, MJH & **Ainsworth, S.E.** (2011) . Motivating children to learn effectively: exploring the value of intrinsic integration in educational games. *Journal of the Learning Sciences*. 20 (2) 169-206. *currently most downloaded paper in the journal*
- Barthel, M., **Ainsworth, S.E.** & Sharples, M (2011) Negotiating perspective in social video Environments. In Drotner K, Schrøder KC (Eds) Digital content creation: perceptions, practices, & perspectives,(pp 211-226). Peter Lang Pub Inc.
- de Vries, E., Demetriadis, S., & **Ainsworth, S.** (2009). External representations for learning: Headed towards a digital culture. In B. Balacheff, S. Ludvigsen, T. de Jong, A. Lazonder & S. Barnes (Eds.), *Technology-Enhanced Learning: Principles and Products* (pp. 137-153). Amsterdam: Springer.
- Ainsworth, S.** (2008). The educational value of multiple representations when learning complex scientific concepts. In J. K. Gilbert & M. Reiner & M. Nakhlel (Eds.), *Visualization: Theory and Practice in Science Education* (pp. 191-208 New York: Springer.
- Ainsworth, S.** (2008). How do animations influence learning? In D. Robinson & G. Schraw (Eds.), *Current Perspectives on Cognition, Learning, and Instruction: Recent Innovations in Educational Technology that Facilitate Student Learning*. pp 37-67. Information Age Publishing
- Ainsworth, S.** (2008). How should we evaluate multimedia learning environments. In J.-F. Rouet & R. Lowe & W. Schnotz (Eds.), *Understanding Multimedia Comprehension*. pp 249-265 New York: Springer.

- De Vries, E & **Ainsworth, S.E.** (2007) Conversions dan les environnements informatique pour l'apprentissage humain. J. Baille (Ed.) Conversion. pp 165-187. Presses Universitaires de Grenoble: Grenoble.
- Ainsworth, S.E.** (2007) Using a single authoring environment across the lifespan of learning. *Educational Technology & Society*, 10(3), 22-31.
- Ainsworth, S.E.** & Burcham, S. (2007). The impact of text coherence on learning by self-explanation. *Learning and Instruction*, 17(3), 286-303.
- Ainsworth, S.E.** (2006) DEFT: A conceptual framework for learning with multiple representations. *Learning and Instruction*. 16(3), 183-198. *most cited paper in the journal in 2009-2011*
- Ainsworth, S.E.** & Fleming, P.F. (2006) Teachers as instructional designers: Does involving a classroom teacher in the design of computer-based learning environments improve their effectiveness? *Computers in Human Behavior*, 22,1,131-148
- Habgood, M. P.J. **Ainsworth, S.E.**, & Benford, S. (2005). Endogenous fantasy and learning in digital games. *Simulation & Gaming*, 36, 483-498.
- Ainsworth, S.E.** & Van Labeke (2004) Multiple forms of dynamic representation. *Learning and Instruction*, 14(3), 241-255 *top 10 most cited paper in the journal 2008,2009*
- Ainsworth, S.E.** & Grimshaw, S.K. (2004) Evaluating the REDEEM authoring tool: Can teachers create effective learning environments? *International Journal of Artificial Intelligence in Education* 14(3/4), 279-312.
- Ainsworth, S.E.** & Loizou, A. (2003). The effects of self-explaining when learning with text or diagrams. *Cognitive Science*, 27, 669-681.
- Ainsworth, S.E.**, Major, N., Grimshaw, S.K., Hayes, M., Underwood, J.D., Williams, B. & Wood, D.J. (2003). REDEEM: Simple Intelligent Tutoring Systems From Usable Tools in T. Murray, S. Blessing & S.E. Ainsworth (2003). *Advanced Tools for Advanced Technology Learning Environments*. pp. 205-232. Amsterdam: Kluwer Academic Publishers
- T. Murray, S. Blessing & **S.E. Ainsworth** (2003). Tools for Advanced Technology Learning Environments. Amsterdam: Kluwer Academic Publishers
- Ainsworth, S.E.**, Bibby, P.A & Wood, D.J. (2002). Examining the effects of different multiple representational systems in learning primary mathematics. *Journal of the Learning Sciences*. 11(1), 25-62.
- Ainsworth, S.E.** (1999). A functional taxonomy of multiple representations. *Computers and Education*, 33(2/3), 131-152 (most cited paper in the journal in its history)
- Ainsworth, S.E.**, Grimshaw, S.K. & Underwood, D.J. (1999). Teachers implementing pedagogy through REDEEM. *Computers and Education*, 33(2/3),171-188.
- Ainsworth, S.E.**, Wood, D.J. & O'Malley, C. (1998). There's more than one way to solve a problem: Evaluating a learning environment to support the development of children's multiplication skills. *Learning and Instruction*, 8(2), 141-157.
- de Jong, T., **Ainsworth, S.**, Dobson, M., van der Hulst, A., Levonen, J., Reimann, P., Sime, J., van Someren, M., Spada, H. & Swaak, J. (1998). Acquiring knowledge in science and math: The use of multiple representations in technology based learning environments. In Van Someren, M.W., Reimann, P. Bozhimen, & T. de Jong (Ed). *Learning with Multiple Representations*, pp 9-40 Amsterdam: Elsevier Science. ISBN 0-08-043343-X.
- Ainsworth, S.E.**, Bibby, P.A., & Wood, D.J. (1998). Analysing the costs and benefits of multi-representational learning environments. In Van Someren, M.W., Reimann, P. Bozhimen, & T. de Jong (Ed). *Learning with Multiple Representations*, pp 120-134 Amsterdam: Elsevier Science. ISBN 0-08-043343-X.
- Major, N., **Ainsworth, S.E.**, & Wood, D.J. (1997). REDEEM: Exploiting symbiosis between psychology and authoring environments, *International Journal of Artificial Intelligence in Education* 8(3/4), 317-340.
- Ainsworth, S.E.**, Bibby, P.A., & Wood, D.J. (1997). Information technology and multiple representations: New opportunities - new problems *Journal of Information Technology for Teacher Education*, 6(1), 93-104.
- Wood, D.J., Wood, H., **Ainsworth, S.E.** & O'Malley, C. (1995). On becoming a tutor: Towards an ontogenetic model. *Cognition and Instruction* 13(4), 565-581.

PAPERS IN FULLY REFEREED CONFERENCES PROCEEDINGS

- Ainsworth, S.E.** & Nathan, M. (2010) Drawing to learn dynamic systems. In Gomez, K., Lyons, L., & Radinsky, J.(Eds) *Proceedings of the International Conferences of the Learning Sciences*, pp 164-170.
- Ainsworth, S.E.**, de Jong, T. & Hmelo-Silver, C. (2010) On the process and outcomes of inquiry learning: changing approaches to assessment. In Gomez, K., Lyons, L., & Radinsky, J.(Eds) *Proceedings of the International Conferences of the Learning Sciences*, pp 86-92.
- Ainsworth, S.E.**, Matuk, C. & Uttal, D. (2010) Understanding the Tree of Life. In Gomez, K., Lyons, L., & Radinsky, J.(Eds) *Proceedings of the International Conferences of the Learning Sciences*, pp 220-226.
- Anastopoulou S., Yang Y., Paxton M., Sharples M., Crook C., **Ainsworth S.E** & O'Malley C. (2010) Maintaining continuity of inquiry learning experiences across contexts: Teacher's management strategies and the role of technology. In M. Wolpers, P.A. Kirschner, M. Scheffel, S. Lindstaedt & V. Dimitrova Eds) *Sustaining TEL: From Innovation to Learning and Practice*, pp. 17–29.
- Gelmini Hornsby, G., **Ainsworth, S.**, Buda, M., Crook, C. & O'Malley, C. (2008). Making your views known: The importance of anonymity before and after classroom debates. *Proceedings of the International Conference of the Learning Sciences*, Utrecht, NL.
- Anastopoulou,S., Sharples, M., Wright, M., Martin, H., **Ainsworth, S.**, Benford, S., Crook, C., Greenhalgh, C., & O'Malley, C. (2008). Learning 21st Century Science in Context with Mobile Technologies. mLearn2008 - The Bridge from Text to Context. University of Wolverhampton
- Baker, R.S.J.d., Habgood, M.P.J., **Ainsworth, S.E.**, Corbett, A.T. (2007) Modelling the Acquisition of Fluent Skill in Educational Action Games. In Conati, C; McCoy, K; Paliouras, G (Eds). *Proceedings of User Modeling 2007*, Springer Verlag (pp 17-26).
- Persson, P., Cooper, M.D., Tibell,L.A.E., **Ainsworth, S.E.** Ynnerman,A., & Jonsson, B-H. (2007) Designing and Evaluating a Haptic System for Biomolecular Education. *Virtual Reality Conference, IEEE* pp 171-178.
- Ainsworth, S.E** & Fleming, P.F. (2005) Evaluating a Mixed-Initiative Authoring Environment: Is REDEEM for Real? *Proceedings of the 12th International Conference on Artificial Intelligence in Education*, pp (9-16).
- Ainsworth, S.E.**, Williams, B.C & Wood, D.J. (2003) Comparing the learning effectiveness of REDEEM and CBT. In U. Hoppe, F Verdejo. & J. Kay *Proceedings of the 11th International Conference on Artificial Intelligence in Education.* (pp 123-130) IOS Press: Amsterdam. ISBN 1586033565.
- Ainsworth, S.E.** & Peevers, G.J. (2003) The interaction between informational and computational properties of external representations on problem-solving and learning. *25th Annual Conference of the Cognitive Science Society*.
- Ainsworth, S. E.**, Clarke, D., & Gaizauskas, R. J. (2002). Using edit distance algorithms to compare alternative approaches to ITS authoring. In S.A. Cerri & G. Gouardères & F. Paraguaçu (Eds.), *Intelligent Tutoring Systems* (pp. 873-882). Berlin: Springer-Verlag. ISBN 3-540-43750-9
- Ainsworth, S. E.**, & Grimshaw, S. K. (2002). Are ITSs created with the REDEEM authoring tool more effective than 'dumb' courseware? In S.A. Cerri & G. Gouardères & F. Paraguaçu (Eds.), *Intelligent Tutoring Systems* (pp. 883-892). Berlin: Springer-Verlag. ISBN 3-540-43750-9
- Van Labeke, N., & **Ainsworth, S.E.** (2002). Representational decisions when learning population dynamics with an instructional simulation. In S. Cerri & G. Gouardères & F. Paraguaçu (Eds.), *Intelligent Tutoring Systems* (pp. 831-840). Berlin: Springer-Verlag. ISBN 3-540-43750-9.
- Ainsworth, S.E.**, Williams, B.C & Wood, D.J. (2001). Using the REDEEM ITS authoring environment in naval training. In T. Okamoto, R. Hartley, Kinshuk, & J.P. Klus (Eds.). *Proceedings of the IEEE International Conference on Advanced Learning Technologies*, pp 189-192. IEEE Computer Society, Los Alamitos, CA. ISBN 0-7695-1013-2.
- Van Labeke, N & **Ainsworth, S.E.** (2001). Applying the DeFT framework to the design of multi-representational instructional simulations. In J.D. Moore, C.L. Redfield & W.L. Johnson (Eds.). *Proceedings of the 10th International Conference on AI in Education*, pp 314-321. IOS Press: Amsterdam. ISSN 0922-6389

- Ainsworth, S.E.**, Grimshaw, S.K. & Underwood, J.D. (2000). Using an ITS authoring tool to explore educators' use of instructional strategies. In G. Gauthier, C. Frasson & K. VanLehn (Eds.). *Intelligent Tutoring Systems: Proceedings of the 5th International Conference ITS 2000*. pp 182-191. ISSN 0302-9743.
- Ainsworth, S.E.**, Underwood, J.D. & Grimshaw, S.K. (1999). Formatively evaluating REDEEM: An authoring environment for Intelligent Tutoring Systems. In S. Lajoi & M. Vivet (Eds.) *Proceedings of the 9th Artificial Intelligence in Education*, pp93 - 100. IOS press. ISSN 0922-6389.
- Major, N & **Ainsworth, S.E.** (1997). Developing ITSs using a psychologically motivated authoring environment. In C. Redfield (Eds.). *AAAI Fall Symposium on Intelligent Tutoring System Authoring Tools*, (pp 53-59), AAAI Press: Menlo Park, CA. ISBN 1-57735-038-3.
- Ainsworth, S.E.**, Bibby, P.A., & Wood, D.J. (1996). Combining and translating between representations, in I.E.E *Colloquium on Thinking with Diagrams Digest no 96/010*, (pp 6/1 to 6/3). London. ISSN 0963-3308.
- Ainsworth, S.E.**, Wood, D.J., & Bibby, P.A. (1996). Co-ordinating Multiple Representations in Computer Based Learning Environments, P. Brna, A. Paiva, & J. Self (Eds.). *Proceedings of the European Conference on Artificial Intelligence and Education*, (pp 336-342). Edicoes Colibri: Lisbon. ISBN 972-8288-37-9.
- Churchill, E.F., & **Ainsworth, S.E.** (1995). Making claims about teaching systems. In K. Nordy, P. Helmersen, D.J. Gilmore, & S. Arnesen (Ed.), *Proceedings of Interact 95*. Lillehammer. ISBN 0-412-71790-5.

ENCYCLOPEDIA ENTRIES

- Ainsworth, S** & Lowe, R. (2012) Representational learning, *Encyclopedia of the Sciences of Learning*, Part 18, Pages 2832-2835.

BOOK REVIEWS

- Ainsworth, S.E. (2000)**. Word problems – research and curriculum reform by Stephen Reed. LEA 1999, in *British Journal of Educational Psychology* (2000), pp 154-155.

REFEREED CONFERENCE, WORKSHOP AND SYMPOSIUM PAPERS

- Scanlon, E; Littleton, K; Anastopoulou, S.; Sharples, M & **Ainsworth, S.** (2009). Personal Inquiry and groupwork: issues for computer-supported inquiry learning. In: Dimitracopoulou, Angelique; O'Malley, Claire; Suthers, Daniel and Reimann, Peter eds. *Computer Supported Collaborative Learning Practices - CSCL2009*.
- Anastopoulou, S., Wright, M., Sharples, M., **Ainsworth, S.**, Crook, C., Norton, B., & O'Malley, C. (2010) Personal Inquiry: Lessons Learned. *Proceedings of 8th World Conference on Mobile and Contextual Learning*.
- Ainsworth S, E.** & Habood, J. (2009) Exploring the effectiveness of intrinsic integration in serious games. In *Proceedings of the 13th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI)*, Aug 25-29 2009, Amsterdam.
- Ainsworth S** (2009) Understanding Learning with Animations. In *Proceedings of the 13th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI)*, Aug 25-29 2009, Amsterdam.
- Gelmini-Hornsby, G., **Ainsworth, S.**, Threapleton, K., Buda, M., O'Malley, C., Crook, C. (2009), Encouraging engagement and opinion change through anonymous voting in the classroom. In *Proceedings of the 13th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI)*, Aug 25-29 2009, Amsterdam.
- Gelmini-Hornsby, G., O'Malley, C., & **Ainsworth, S.** (2009), Guided reciprocal questioning supports children's collaborative story-telling. In *Proceedings of the 13th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI)*, Aug 25-29 2009, Amsterdam.

- Tibell, L., **Ainsworth, S.E.**, Persson, B. & Höst, G. (2008) Haptic Influences on Reasoning and Learning in Protein Education. Proceedings of the 9th Nordic Research Symposium on Science Education.
- Xolocotzin-Eligio, U., **Ainsworth S** & Crook, C. (2009) Mutual influence and emotions in Computer Supported Collaborative Learning. In Proceedings of the 13th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI), Aug 25-29 2009, Amsterdam.
- Anastopoulou S., Sharples M., **Ainsworth S.** & Crook C. (2009) Personal Inquiry: linking the cultures of homand school with technology mediated science inquiry. In Mobile learning cultures across education, work and leisure; In N. Pachler & J. Seipold (Eds) Proceedings of the 3rd WLE Mobile Learning Symposium, Work-Based Learning for Education Centre
- Anastopoulou S. Kerawalla L.J., Littleton K., **Ainsworth S.**, Twiner A., Conole G., and the rest of the PI team (2009). Facilitating the expression of learner voices in the participatory design of technology to support inquiry learning. In the CAL'09 'Learning in Digital Worlds March 23-25th 2009. Brighton UK.
- Enriquez, J. **Ainsworth, S.**, Crook, C., O'Malley, C., Gelmini, G., & Buda, M. (2008) Turn-taking and Mode-switching in grounding text-based communication in the classroom. Proceedings of the International Conference of the Learning Sciences. 27-28.
- Brundell, P., Knight, D., Tennent, P., Naeem, A., Adolphs, S., **Ainsworth, S.**, Carter, R., Clarke, D., Crabtree, A., Greenhalgh, C., O'Malley, C., Pridmore, T. and Rodden, T. (2008) The experience of using the Digital Replay System for social science research , Proceedings of the 4th International e-Social Science Conference, June 18-20, University of Manchester: ESRC NCESS.
- Forsyth, R.S., **Ainsworth, S.E.**, Clarke, D.D., O'Malley, C. & Brundell, P.R. (2006). Linguistic-computing methods for analysing digital records of learning. 2nd International Conf. on e-Social Science, 28-30 June, 2006, Manchester, UK.
- Habgood, M.P.J., **Ainsworth, S.E.** & Benford, S. (2005) Intrinsic fantasy: Motivation and affect in educational games made by children. Workshop on Motivation and Affect in Educational Software, at AIED 2005, pp 17-24.
- Ainsworth, S.E** & Fleming, P.F. (2004) Teachers as instructional designers: Does involving a classroom teacher in the design of computer-based learning environments improve their effectiveness? In Gerjets, P., Kirschner, P. A., Elen, J. & Joiner, R. (Eds.) (2004). Instructional design for effective and enjoyable computer- supported learning. Proceedings of the first joint meeting of the EARLI SIGs Instructional Design and Learning and Instruction with Computers, pp 283-291
- Ainsworth, S.E** & Van Labeke, N (2002). Using a multi-representational design framework to develop and evaluate a dynamic simulation environment. Paper presented at *Dynamic Information and Visualisation Workshop*, Tuebingen, July, 2002.
- Ainsworth, S.E.** (2000). REDEEM: ITS authoring environments and human teaching. Paper presented at the ITS2000 workshop on *Modelling Human Teaching Tactics*, Montreal, June 2000.
- Ainsworth, S.E.** (1999) Learning to communicate and communicating to learn. Paper presented at TMR conference 'Roles of communicative interaction in learning to model in mathematics and science' (C-LEMMAS) conference, Ajaccio, Corsica, April 15-18.

REFEREED ABSTRACTS

- Ainsworth, S.E.** (2008). Understanding the roles of constructing and interpreting multimodal representations in learning complex topics International Conference on Multimodality and Learning: New Perspectives on Knowledge, Representation and Communication. *June 08 London*
- Ainsworth, S.E**, Forsyth, R.S., Clarke, D.D., Robertson, L. O'Malley, C (2007) Automatic coding of learners' self-explanation when learning from diagrams. Paper presented at the EARLI conference August 07. Budapest
- Persson, P., Tibell, L. & **Ainsworth, S.E.** (2007) Reasoning through Touch? Using Haptics in Life Science Education. Paper presented at the EARLI conference August 07. Budapest

- Ainsworth, S.E.**, Musgrove, S & Galpin, J, (2007) Learning about dynamic systems by drawing for yourself and for others. Paper presented at the EARLI conference August 07. Budapest
- Cockburn, E., **Ainsworth, S.E.** & Harrison, C. (2006) Boxes and skeletons: scaffolding mind map construction for 7-9 year old children. . Paper presented at the EARLI conference August 07. Budapest
- Cockburn, E., **Ainsworth, S.E.** & Harrison, C. (2006) Children using Mind Maps as planning tools for non-narrative writing. Paper presented at EARLI SIG5 conference, Antwerp, September 06
- French, A., Wright, M., Greenhalgh, C., Knight, D., Brundell, P., O'Malley, C., **Ainsworth, S.**, Clarke, D., & Rodden, T. (2006). 'Replaytool' Software in Practice. Poster presented at the 2nd International Conference on e-Social Science, 28th-30th June 2006. Manchester, UK.
- Tomás, C., Coyle, D., **Ainsworth, S.** (2006) Segmentation of Text and Meaning. Paper presented at EUROCALL 4-7 September 2006.
- Tomás, C., Coyle, D., **Ainsworth, S.** Attention to form and meaning during reading authentic text. Paper presented at BAAL (British Association of Applied Linguists) SIG 19-20 April 2006
- Ainsworth, S.E.** & Iacovides, I. (2005) Learning by constructing self-explanation diagrams. Paper presented at the EARLI conference August 05.
- Tomás-García, C., **Ainsworth, S.E.** & Coyle, D. (2005) Hypertext: A Case-study on hypertext for foreign language text comprehension. Poster at EARLI conference August 05.
- Cockburn, E, Harrison, C. & **Ainsworth, S.E** (2005) Children's use of mind maps to plan narrative writing: the roles of task and map structure. Poster presented at the EARLI conference August 05.
- Ainsworth, S.E.** (2005) When does increasing the usability of authoring tools at the cost of simplifying the resulting learning environments pay off? Paper presented at EARLI conference August 05.
- Ainsworth, S.E** & Burcham, S. (2004) Limits on the Self Explanation Effect: When increasingly self-explanations does not improve learning outcomes. Paper presented at the *EARLI SIG2 Meeting Valencia*, September 2004.
- Habgood, M.P.H., **Ainsworth S.E.**& Benford, S. (2005) The educational and motivational content of digital games made by children. Paper presented at CAL conference April 05.
- Cockburn, E., **Ainsworth, S.E.** & Harrison, C. (2004) Can 8-10 year old children use mind maps to help in narrative writing? Paper presented at the *EARLI SIG2 Meeting Valencia*, September 2004.
- Van Labeke, N & **Ainsworth, S.E** (2003) A microgenetic approach to understanding the processes of translating between representations Paper presented at the *10th EARLI conference Padova*, August 2003.
- Ainsworth, S.E** & Van Labeke, N (2002). Learners' representational preferences with a multi-representational simulation environment. Paper presented at EARLI SIG2 meeting on *Multimedia Comprehension*, Poitiers, August 2002.
- Ainsworth, S.E** & Van Labeke, N (2001). A conceptual framework for designing and evaluating multi-representational learning environments. Paper presented at the *9th EARLI conference Fribourg*, August 2001.
- Hayes, M., Underwood, J.D., **Ainsworth, S.E.**, & Grimshaw, S.K. (2001). Exploring pedagogy through a virtual class. Paper presented at *Computers and Learning 2001*, Warwick, April 2001.
- Grimshaw, S.K. **Ainsworth, S.E.** & Underwood, J.D. (2001). Using an intelligent tutoring system authoring tool to prompt communication, problem-solving and reflection amongst teachers. Paper presented at *International Conference on Communication, Problem-Solving And Learning*, Strathclyde, June 2001.
- Underwood, J., **Ainsworth, S.E.**, & Grimshaw, S. (2000). *Windows on teachers' pedagogy*. Paper presented at *Learning for the Third Age*: Cheltenham, July 2000.
- Ainsworth, S.E.**, Wood, D.J., & Bibby, P.A. (1997). Evaluating principles for multi-representational learning environments. Paper presented at the *7th EARLI conference Athens*, August 1997.

TEACHING

As a psychologist of education, I am uniquely lucky in being able to combine my research interests in the fundamental processes of teaching and learning, and their application in educational environments, with my teaching activities. Research-led teaching in my case has a double meaning. My approach is broadly based on (cognitive) constructivist pedagogies and although working within the strong constraints of large class teaching I have developed approaches and materials which encourage students to take an active approach to their learning. For example, in the Psychology of Digital Technology, sessions combine a 1-hour lecture with a 1-hour student-led session reporting on small group work conducted during the week (e.g., analysis of the avatars for news-reading, comparing communication media using diary methods). I am also committed to helping students see how understanding the psychology of learning can be of benefit to their own development as learners.

I have also been able to use innovative educational technologies in my work. I developed the REDEEM authoring environment (which creates adapted, interactive and minimally adaptive learning environments) for use in secondary and military education (ESRC and ONR funded). In 2004 I adapted it for use in higher education and authored a revision tutor for statistics. Ainsworth and Fleming (2005) reports on an evaluation, which showed that students improved their grades by one degree class if they revised with it (even when prior performance and measures of 'diligence' are controlled).

Table 1. Current Undergraduate Teaching Activities

Activity	Title	No of Students
Convene and Lecture	Psychology of Digital Technology	50
Lecture	Cognitive Development and Learning	100
Lecture	Cognitive Psychology 2	200
Project	3rd yr project	6
Tutorials	1 and 2 nd biweekly tutorials	15

Table 2. Current (and recent Masters) Teaching Activities

Activity	Title	No of Students	School
Workshop	Professional Skills for Psychologists: Impact and Outreach	15	Community Health Sciences
Lecture	Advanced Research Methods	5	Psychology
Lecture	Learning Theory	Suspended 2011-2012	LSRI
Lecture	Research Methods for Interactive Technologies	Suspended 2011-2012	LSRI
Seminar	The PhD Viva	12	The Graduate School

TEACHING QUALITY

The University of Nottingham uses a Student Evaluation of Teaching (SET) approach based on a 5-point scale, where 1 is the highest and 5 the lowest. Typical questions include 'the teacher was an able communicator and 'Overall this teacher assisted my learning' with the latter question being used as the 'indicator' question. Two of my courses were evaluated in the current academic session (Cognitive Development and Learning (CDL), Psychology of Digital Technology (PDT)). CDL SET scores ranged between 1.1 and 1.4, with the 'overall' question receiving 1.2. PDT was similar with the overall score marked as 1.1. Written feedback in response to "What is most effective about this staff member's teaching" commended clarity, approachability, enthusiasm and innovative teaching methods in particular. For example,

"Shaaron's enthusiasm for her subject is infectious and definitely helps to motivate me" CDL

"A very engaging approach – relevant diagrams, examples and interactive learning activities" CDL

“The opportunity to do something practical with the lectures by doing fortnightly presentations” PDT

“I have really enjoyed this module despite being a ‘technophobe’ and would definitely recommend it second years” PDT

In October 2005, I was awarded the University of Nottingham’s Lord Dearing Award for teaching and learning for innovation and excellence in teaching in higher education. This award was given in recognition of my contribution to research-led teaching. In 2011, the Visual Learning Lab (a CETL for whom I served on the Management Board) was also awarded a Lord Dearing Award.

PHD STUDENTS

All PhD supervision has been conducted within the Learning Sciences Research Institute, which offers students the opportunity to gain interdisciplinary PhDs working within two different schools at the University. Typically, I have supervised students working in the intersection of Psychology and Education, although occasionally I have worked with schools such as Computer Science and Nursing.

Table 3. Graduated Students

Student	Schools	Title	Awarded	Currently
Marije Van Amelsvoort	Educational Sciences (Utrecht) and Psychology	Collaborative argumentation based learning	Oct 06	Lecturer in Communication. University of Tilburg
Jacob Habgood	Psychology and Computer Science	The effective integration of digital games and learning content	July 07	Lecturer in Computer Science. Sheffield Hallam University
Tim Jay	Education and Psychology	Explaining individual differences in strategy variability amongst mathematics students	July 07	Lecturer in Education. Science. University of Bristol
Carmen Tomás-García	Education and Psychology	Text segmentation in authentic foreign language learning	June 09	Researcher Nottingham Trent University
Ralph Bartell	Education and Psychology	Collaborative Knowledge Building through multi-path video Construction	April 10	Post doctoral fellow, UCL
Ulises Xolocotzin	Psychology and Education	Emotion understanding during computer supported collaboration	Sept 10	Post doctoral fellow, University of Bristol
Elaine Cockburn	Education and Psychology	Can children create mind maps as planning tools for writing	May 11	Senior Lecturer in Education, Nottingham Trent University
Giulia Gelmini-Hornsby	Psychology	Drawing and reciprocal questioning enhances collaborative story telling	Dec 11	Maternity leave

Table 4. Current Research Student Supervision

Student	Schools	Topic	Est Compl.
Cherry Poussa	Psychology and Nursing	The role of the web in continuing nurse education	Dec 11
Matthew McFall	Education and Psychology	Wonder and learning	April 12
Sherriden Masters	Education and Psychology	Anonymity in digital role play	Sept 12
Terry O'Brien	Psychology and Maths Education (Loughborough)	Maths cognition	Sept 13

UNIVERSITY SERVICE

My contributions to service at the University of Nottingham are concentrated in Psychology and in the LSRI. I am currently Director of Post-Graduate Teaching for Psychology with responsibility for overseeing taught components of all non-undergraduate teaching within Psychology. In this role, I serve on Post Graduate committee with responsibilities involving selection and progression of all PhD students in the School.

I have been an active member of the LSRI since its inception in 2002. Alongside, Prof Claire O'Malley I am the only other member of the management group to have been continuously involved in the LSRI for this period. As a result, I have undertaken many responsibilities including developing research methods courses, acting as Post Graduate Director, seminar organiser and more.

Finally, at a University Level I sat on the management group of the Visual Learn Lab CETL exploring ways to incorporate innovative visual pedagogies into higher education.

LOCAL COMMUNITY SERVICE

Outside the University, I work most closely with (currently two) local secondary schools.

At the George Spencer Academy, I advise the Principal on current educational research which can inform practice; my undergraduate students also conduct small focussed projects within the school on topics of mutual interest.

At Nottingham University Samworth Academy, I have a PhD student (Matthew McFall) employed by the School two days a week where he works as an 'agent of wonder'. This innovative post and its associated Wonder Room has attracted much media attention (see the Times Educational Supplement January 20th, The Guardian <http://www.guardian.co.uk/education/2011/may/31/wonder-room-nottingham-university-academy> or the BBC <http://www.bbc.co.uk/news/uk-england-nottinghamshire-13711015>).

ACADEMIC SERVICE

REVIEWING

At present, I am on the following editorial boards:

- 2011 Educational Psychologist
- 2010 Learning and Instruction
- 2009 Journal of Educational Psychology
- 2007 Educational Psychology Review
- 2006 Computers in Human Behaviour

I am also ad-hoc reviewer for a significant number of journals including Acta Cybernetica, Applied Cognitive Psychology, Association of Learning Technology Journal, Artificial Intelligence Review, British Journal of Educational Psychology, British Medical Journal, Cognitive Science, Computers & Education, IEEE Information Systems, Instructional Science, International Journal of Artificial Intelligence in Education, International Journal of Human Computer Studies, International Journal of CSCL, Journal of Computer Assisted Learning, Journal of the Learning Sciences, and Science.

CONFERENCES AND COMMUNITIES

I have been on the program committee of many conferences and have chaired the following international conferences:

- 2006 EARLI SIG 2 Conference in Text and Graphics Comprehension, Nottingham
- 2007 Vice Chair Gordon Conference in Visualization in Science and Education, Rhode Island,
- 2008 Program Chair of the EARLI SIG 2 Conference in Text and Graphics Comprehension, Tilburg
- 2009 Chair of the Gordon Conference in Visualization in Science and Education Oxford

Between 2006-2010, I was EARLI SIG 2 "Text and Graphics" coordinator. I remain actively involved with this community.

INTERNATIONAL ADVISORY BOARDS

- 2005-2008 Co-Chair of Advisory Board, Pittsburgh Science of Learning Center (USA)
- 2006-2010 Advisory Board: Resource-Adaptive Design of Visualizations for Supporting the Comprehension of Complex Dynamics in the Natural Sciences Tuebingen (Germany).
- 2007-2011 Advisory Board: ARC grant on Visual and Multimodal Learning at Deakin University (Australia)

GRANTS AND FUNDING BODIES

I review grants for ESRC, the ESPSC, the Deutsche Forschungsgemeinschaft (German Science Foundation), NWO (Dutch Science Foundation) the American National Science Foundation (NSF), and Israel Science Foundation.

In 2004-2005, I consulted for the CRA and NSF in Washington DC concerning the development of a Cyberlearning research portfolio at the NSF which resulted in the following report. S. Ainsworth, M Honey, W.L Johnson, K Koedinger, B Muramatsu, R Pea, M Recker, & S Weimar (Eds). Cyberinfrastructure for Education and Learning for the Future: a Vision and Research Agenda (2005). Computing Research Association.

EXTERNAL EXAMINING

I have examined Ph.D and Ed.D theses for University of Birmingham (Engineering), University of Bristol (Education), University of Cambridge (Education), Imperial College (Medicine), University of Nottingham (Psychology), Open University (Education), Twente University (Psychology), University of Sydney (Education) and Utrecht University (Educational Sciences).

NON ACADEMIC CONSULTANCIES

I have consulted for Microsoft Corporation on adaptive education, Sharp Labs Europe on mobile and game-based learning and for NATO on advanced distributed learning.

INVITATIONS

- 2011 Keynote Speaker EARLI conference, Exeter
- 2011 Invited speaker at the Alpine Rendezvous, La Cluzaz.
- 2010 Keynote speaker at SIG 6/7 EARLI conference, Ulm.
- 2010 Invited Tutorial at SIG 2 EARLI conference, Tuebingen.
- 2006 Keynote speaker at IEEE International Conference on Advanced Learning Technologies, Kerkrade.
- 2006 Keynote speaker at the EARLI JURE conference, Estonia.
- 2005 Invited tutorial "Evaluation issues in AIED" 12th International Conference on Artificial Intelligence in Education, Amsterdam 2005
- 2005 Invited speaker Gordon Conference on Visualization in Science and Education, Oxford
- 2005 Invited workshop co-organizer "Assessing the Effectiveness of Visualization Projects" Conference on Visualization in Science and Education, Oxford.
- 2003 Invited tutorial "Evaluation issues in AIED" 11th International Conference on Artificial Intelligence in Education, Sydney.
- 2002 Invited speaker "Learning with Dynamic Visualizations" in Tuebingen, July, 2002.
- 2000 Invited lecturer at the 9th Herbstschule Kognitionswissenschaft, University of Freiburg,