

# Issues in Infancy: Walking, Talking and Imitating

PSYC 301

Whitman College – Spring 2013

Tuesdays & Thursdays, 1-2:20pm

Maxey 301

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## Overview

This seminar will investigate current thinking and research about selected aspects of early motor, cognitive and social development. We will look in depth at three selected topics, reading original research articles and theory papers on each and trying to weigh the evidence. The topics for this semester include learning to walk, early word learning, and imitation as a mechanism for early learning. Each of these topics is of long-standing interest in the field of infant development and raises a variety of issues that are currently being actively researched. Course work will involve reading original source materials, and class sessions will include discussion, debate, videos, and student presentations.

## Readings

All of the assigned readings for the course are available through CLEO. You can login to the CLEO site from the main Students' webpage. The readings can be found in the "Resources" tab. All readings are subject to change.

## Summary of Requirements and Grading

### Class Participation — 20% of your total grade

Our class meetings will primarily focus on conversation about the readings and the larger issues that they suggest. You are expected to be an active and productive participant in our conversations. To do this, you must:

- carefully read (and often re-read) the assigned texts before class,
- take notes on the reading, and
- come to our meetings with questions, themes, and ideas to discuss.

Guidelines for participation grades are at the end of the syllabus, and you will receive feedback throughout the semester on your participation.

On occasion throughout the semester, we will jigsaw articles. This means the class will divide up many articles to be read by one or two classmates, and then you will all report back to the class on what you read. When we do that, be prepared to present more than just a summary of the article – you should also establish the article's importance, note its special contribution to the topic we are working on, identify further interesting questions it raises, relate it to other concepts and materials we have been working on in class, etc. When we do this, there will be at least 2 of you responsible for the same article; in addition to teaching your article to the class, presenters will prepare a 1 page write-up of their presentation to distribute to the rest of the class (and to me), so everyone ends up with a collection of these to refer to later, as part of the course material on a given topic, for incorporating into the papers. You should work on those handouts together with the other student(s) reading the same article. The quality of hand-outs and reporting to the class will contribute to your participation grade, but you will not be graded on these components separately.

### Papers — 60% of your total grade (20% each)

During the course of the semester, you will write 3 3-5 page papers, one on each of our 3 topics. These essays do not involve any additional reading or library research – they are intended to help you integrate across the several class sessions we have devoted to each of our major topics. The questions for the essays will be handed out towards the end of each unit.

## **Final Exam— 20%** of your total grade

At the end of the semester, you will write a take-home final exam where you synthesize across the 3 topics. You will be given the specific prompt on the last day of classes and the exam is due at the beginning of our scheduled final exam period, **9am Tuesday May 14**.

**\*\* NOTE \*\*** You cannot receive a passing grade for the course if:

- You miss or fail any of the mid-semester papers, *for any reason*; or
- You miss or fail the final exam, *for any reason*.

## **Extensions and Late Policies**

### **1. Mid-Semester Papers**

Every student should have a chance to manage her schedule and submit her best work. Hence, anyone can get a brief extension for any reason, according to the following stipulations:

- All requests for extensions must be made at least 24 hours before the paper is due.
- You must propose a new due date and time (no more than 1 full week).
- You may only receive 1 extension per paper (i.e. no extensions of extensions).

**Late assignments will not be accepted.** If you do not turn in your paper by the due date (original or extended), then you will fail the paper (and hence the class). **Exceptions to these policies will be made only if you have had a real catastrophe.** (We hope not!) In that case, you should first talk to the Dean of Students or one of the other Powers That Be, and we will make every reasonable accommodation.

### **2. Final Exam**

**There will be absolutely no extensions on the final exam.** If there is a legitimate reason why you cannot complete the assignment on time, you will need to talk with the Dean of Students to arrange for an Incomplete.

## **Academic Honesty**

**All of the work that you submit in this course must be entirely your own.** Of course, you can seek help in a variety of ways to prepare your papers. So it is **permitted** (and even recommended!) for you to: consult additional readings, search for material on the internet, discuss your ideas with other students, exchange notes with other students, and read and discuss drafts of each other's papers. If you do use someone else's words or specific ideas in your written work, you *must* provide a proper citation to the source.

Plagiarism will *not* be tolerated in any form. You have signed a statement indicating that you understand and will abide by the College policy on plagiarism. **Any student caught plagiarizing will automatically fail the course**, and may face more severe penalties from the College. (For more details, see the Student Handbook.)

## **Students with Disabilities**

If you have a documented disability and will need accommodation in this course, please meet with Juli Dunn, Director of Academic Resources (Mem 205, x5213, [dunnjl@whitman.edu](mailto:dunnjl@whitman.edu)) for assistance in developing a plan to address your academic needs. We will work together to come up with an appropriate plan. All information about disabilities is private; if I receive notification from ARC that you are eligible for accommodation, I will provide it as discretely as possible.

## Tentative Schedule of Topics & Assignments

<b>Date</b>	<b>Topic</b>	<b>Reading</b>	<b>Due</b>
Tues, 1/15	Intro to course and infant research		
Thurs, 1/17	Impact of Walking	Campos et al. (2000) pp.149-176, 205-212.	
Tues, 1/22	Fundamentals of Walking	Thelen (1984)	
Thurs, 1/24	Origins of Walking	Spelke & Newport (1998) pp. 275-285, and 321-329	
Tues, 1/29	Nuts and Bolts of Walking	Adolph et al (2012)	
Thurs, 1/31	Responses to locomotor challenges	Jigsaw	
Tues, 2/5	Culture effects	Jigsaw	
Thurs, 2/7	Walking in infants with disabilities	Wu et al (2007) OR Mahoney et al (2001)	Paper #1 Due Monday 2/11
Tues, 2/12	Newborn imitation	Meltzoff & Moore (1977) AND Jones (1996)	
Thurs, 2/14	Infant imitation	Barr et al (1996)	
Tues, 2/19	What exactly is being learned?	Want & Harris (2002) & Byrne (1999)	
Thurs, 2/21	Theory 1: AIM account	Meltzoff & Moore (1997)	
Tues, 2/26	Theory 2: Associative Learning	Ray and Heyes (2011) and Jones (2006)	
Thurs, 2/28	Neural basis of imitation: mirror neurons	Rizzolatti (2005) AND Jones (2005)	
Tues, 3/5	Where do mirror neurons come from?	Heyes (2010)	
Thurs, 3/7	Imitation and autism	Rogers (1999)	Paper #2 Due Friday 3/8
<b>Spring Break</b>	<b>March 8-24</b>		
Tues, 3/26	Thinking about language and how to study it	Pinker (1994), Ch.2 Karmiloff & Karmiloff-Smith (2001)	

Thurs, 3/28	Language learning is constrained	Markman (1992)	
Tues, 4/2	Links between object categorization and naming	Waxman (2003)	
Thurs, 4/4	Language is social	Akhtar & Tomasello (2000) AND Baldwin & Meyer (2007)	
Tues, 4/9	NO CLASS: UNDERGRADUATE CONFERENCE		
Thurs, 4/11	Language learning requires reading intentions	L. Bloom (2000)	
Tues, 4/16	Neural basis of intentions	Sabbaugh et al (2007)	
Thurs, 4/18	NO CLASS – MC at SRCD		
Tues, 4/23	Memory, attention & the body in word-learning	Samuelson & Smith (1998)	
Thurs, 4/25	General learning processes for language	Smith (1999)	
Tues, 4/30	The role of the body	Smith et al (2007)	
Thurs, 5/2	Hand, Mouth and Brain	Iverson & Thelen (1999)	
Tues, 5/7	Wrap Up		Paper #3 Due in class
Tues 5/14	Final Exam Due at 9am		

# Reading List

## **Walking**

Campos, J.J., Anderson, D.I., Barbu-Roth, M.A., Hubbard, E.M., Hertenstein, M.J., & Witherington, D. (2000) Travel broadens the mind. *Infancy*. Vol 1(2), 149-219.

Thelen, E. (1984). Learning to walk: Ecological demands and phylogenetic constraints. *Advances in Infancy Research*. Vol 3, 213-250. Elsevier/JAI Press Inc.

Spelke, E.S. & Newport, E.L. (1998). Nativism, empiricism and the development of knowledge. In Lerner (Ed.) *Theoretical models of human development*. Vol 1, Handbook of Child Psychology, 5<sup>th</sup> Edition, Wiley: New York.

Adolph, K. E., Cole, W. G., Komati, M., Garciaguirre, J. S., Badaly, D., Lingeman, J. M., Chan, G. L. Y. , & Sotsky, R. B. (2012). How Do You Learn to Walk? Thousands of Steps and Dozens of Falls Per Day. *Psychological Science*, 23, 1387-1394.

### *Locomotor Challenge Jigsaw options*

Traversing Deformable Surfaces (i.e., walking over waterbeds)

Gibson, E.J., Riccio, G., Schmuckler, M.A., Stoffregen, T.A. et al. (1987) *Journal of Experimental Psychology: Human Perception and Performance*, Vol 13(4), 533-544.

### Moving Room

Schmuckler, M.A. & Gibson, E.J. (1989) *British Journal of Developmental Psychology*. Vol 7(3), 193-206.

### Friction and slopes

Adolph, K. E., Joh, A. S., & Eppler, M. A. (2010). Infants' perception of affordances of slopes under high- and low-friction conditions. *Journal of Experimental Psychology: Human Perception & Performance*, 36, 797-811.

### Weighted Backpacks

Garciaguirre, J. S. Adolph, K. E., & Shrout, P. E. (2007). Baby carriage: Infants walking with loads. *Child Development*, 78, 664-680.

### *Culture Jigsaw options*

Davis, B.E., Moon, R. Y., Sachs, H. C., & Ottolini, M. C. (1998). Effects of sleep position on infant motor development. *Pediatrics*, 102, 1135-1140.

Hopkins, B. & Westra, T. (1989). Maternal expectations of their infants' development: Some cultural differences. *Developmental Medicine & Child Neurology*. Vol 31(3), 384-390.

Super, C.M. (1976) Environmental effects on motor development: The case of African infant precocity. *Developmental Medicine & Child Neurology*. Vol 18(5), 561-567.

Cole, W. G., Lingeman, J. M., & Adolph, K. E. (2012). Go naked: Diapers affect infant walking. *Developmental Science*.

Wu, J., Looper, J., Ulrich, B.D., Ulrich, D.A. & Angulo-Barroso, R.M. (2007). Exploring effects of different treadmill interventions on walking onset and gait patterns in infants with Down syndrome. *Developmental Medicine & Child Neurology*, 49, 839-845.

Mahoney, G., Robinson, C. & Fewell, R. (2001). The effects of early motor intervention on children with Down Syndrome or Cerebral Palsy: A field-based study. *Developmental and Behavioral Pediatrics*, 22(3), 153-162.

## **Imitating**

Meltzoff, A.N. & Moore, M.K. (1977). Imitation of Facial and Manual Gestures by Human Neonates. *Science*, 198, 75-78.

Jones, S.S. (1996). Imitation or exploration? Young infants' matching of adult oral gestures. *Child Development*, 67 (5), 1952-1969.

Barr, R., Dowden, A., & Hayne, H. (1996). Developmental changes in deferred imitation by 6- to 24-month-old infants. *Infant Behavior & Development*. Vol 19(2), 159-170.

Want, S.C. & Harris, P.L. (2002). How do children ape? Applying concepts from the study of non-human primates to the developmental study of 'imitation' in children. *Developmental Science*. Vol 5(1), 1-13.

Byrne, R. W. (1999). Imitation without intentionality. Using string parsing to copy the organization of behaviour. *Animal Cognition*, 2, 63 – 72.

Meltzoff, A.N. & Moore, M.K. (1997). Explaining facial imitation: A theoretical model. *Early Development and Parenting*, 6, 179-192.

Ray, E. & Heyes, C. (2011). Imitation in infancy: the wealth of the stimulus. *Developmental Science*, 14(1), 92-105.

Jones, S. S. (2006). Infants learn to imitate by being imitated. In C. Yu, L. B. Smith, & O. Sporns, *Proceedings of the International Conference on Development and Learning (ICDL)*. Bloomington, IN: Indiana University.

Rizzolati, G. (2005). The mirror neuron system and imitation. In S. Hurley & N. Chater (Eds.) *Perspectives on imitation: From cognitive neuroscience to social science, Vol. 1*. Cambridge, MA: MIT Press, 55-76.

Jones, S.S. (2005) The role of mirror neurons in imitation. In S. Hurley & N. Chater (Eds.) *Perspectives on imitation: From cognitive neuroscience to social science, Vol. 1*. Cambridge, MA: MIT Press, 205-210.

Heyes, C. (2010). Where do mirror neurons come from? *Neuroscience and Biobehavioral Reviews*, 43, 575-583.

Rogers, S.J. (1999). An examination of the imitation deficit in autism. In Nadel & Butterworth (Eds.) *Imitation in Infancy*. Cambridge, UK: Cambridge University Press, 254-283.

## **Talking**

Pinker, S. (1994). *The Language Instinct*. Morrow: New York, ch. 2.

Karmiloff, K. & Karmiloff-Smith, A. (2001). Experimental Paradigms for Studying Language Acquisition, in *Pathways to Language*. Harvard University Press.

Markman, E. (1992). Constraints on Word Learning, in Gunnar & Maratsos (eds.), *Modularity and Constraints in Language and Cognition*, Lawrence Erlbaum Press.

Waxman, S. (2003). Links between Object Categorization and Naming, in Rakison & Oakes (eds.), *Early Category and Concept Development*, Oxford University Press.

Akhtar & Tomasello, (2000). "The Social Nature of Words and World Learning," in Golinkoff et al. (Eds) *Becoming a Word Learner*, Oxford University Press.

Baldwin, D. & Meyer, M. (2007). How inherently social is language? In *Blackwell Handbook of Language Development*, Oxford, Malden, MA, pp.87-106.

Bloom, L. (2000). The Intentionality Model of Word Learning in Golinkoff et al. (Eds) *Becoming a Word Learner*, Oxford University Press.

Sabbagh, M.A., Henderson, A.M.E. & Baldwin, D.A. (2007). What infants' understanding of referential intentions tells us about the neurocognitive bases of early word learning. In Flom, Lee & Muir (Eds) *Gaze-Following: Its development and significance*, Erlbaum Press.

Samuelson, L. & Smith, L.B. (1998). Memory and Attention Make Smart Word Learning: An Alternative Account of Akhtar, Carpenter, and Tomasello. *Child Development* 69(1), pp. 94-104.

Smith, L.B. (1999). Children's Noun Learning: How General Learning Processes Make Specialized Learning Mechanisms, in MacWhinney (ed.), *The Emergence of Language*, Lawrence Erlbaum.

Smith, L.B., Maouene, J., & Hidaka, S. (2007). The body and children's word learning. In Plumert & Spencer (Eds) *The emerging spatial mind*, Oxford Press.

Iverson & Thelen, (1999). Hand, Mouth and Brain: The Dynamic Emergence of Speech and Gesture. *Journal of Consciousness Studies* 6, pp. 19-40.

## Class Participation: Standards & Expectations

An **OUTSTANDING** (A-level) participant typically:

- Displays genuine enthusiasm and engagement with the readings.
- Advances the conversation to new levels.
- Contributes complex insights into the texts and issues.
- Draws connections among different texts and issues.
- Takes intellectual risks.
- Enhances the participation of others by questioning, actively listening, and sharing time.

A **GOOD** (B-level) participant typically:

- Shows genuine effort.
- Actively listens and volunteers.
- Asks good questions about the texts and issues.
- Stays on-topic and furthers the conversation.
- Makes significant observations, comments, or other points.
- Engages other students, not just the professors.

An **ADEQUATE** (C-level) participant typically:

- Listens but does not volunteer.
- Shows acquaintance with the texts and signs of preparation if called on.
- Offers opinions on the texts, but without support.

**UNACCEPTABLE** (failing) behavior includes:

- Frequent absence.
- Signs of total disengagement at our meetings: sleeping, writing letters, reading, etc.
- No evidence of preparation.
- “Toxic” or hostile behavior that undermines our collective learning.