Cognitive and Language Development

Winter 2020
M: 8:30–10:00; Th: 10:00–11:30
M. Sabbagh
sabbagh@queensu.ca

Learning Objectives

- Delineate the distinction between domain-general and domain-specific changes in children's thinking.

- Catalog major milestones of cognitive and language development and the ages at which these milestones are typically met.

- Critically evaluate, compare, and contrast the theoretical perspectives that provide the framework for research in cognitive and language development.

- Apply basic research and theory in cognitive and language development to inform best practices in formal education and other everyday contexts (e.g., legal system, parenting, sports, etc.)

Course Outline

Some of the most long standing questions in Psychology pertain to the origins of our knowledge, how we gain new knowledge, and how our abilities to think new things change over time. In this course, we will introduce the integrated scientific approach to these general questions that comes from the field of Cognitive Development.

   The first aspect of the approach involves identifying important "domains" of competence and then tracking the ways in which children's understandings within these domains changes over the major periods of life: infancy, preschool, etc. Along the way, we will learn about the different kinds of research methods that Cognitive Developmentalists use to gain these insights, and their strengths and shortcomings.

   The second aspect of the approach involves trying to understand the mechanisms by which understandings change. That is, why is it that a young child thinks something so different from an older one? Often times the answers to these

questions are informed by complementary theories that highlight the importance of "intraindividual" mechanisms (e.g., neurobiological developments, general informational processing capacities) and "social–cultural" mechanisms (e.g., family, school, peers, etc.). Understanding these mechanisms are critical to understanding the basic nature of change and are the scientific basis for informing best practices in the everyday contexts within which we hope to promote cognitive development (e.g., schools, sports, etc.).

Language and its development is an integral part of cognitive development. Much of what children learn comes to them through language, much of what they express about what they know is through language, and their language development can change some of the ways that they think about the world. We will have a brief section of the course focused exclusively on language development, but we will find that language development is a critical piece of the entire course.

General Structure of the Course

For the most part, the course will be divided into weeks, with one lecture for the week focused on providing an overview for some topic and the next lecture being a "closer focus" lecture that looks at some particular research topic or controversy. The overview sections will be mostly supported by reading from the textbook. The in-depth sections will be mostly supported by readings from the original literature.

Required Materials

- Textbook: Bjorklund, D. F., & Causey, K. B. (2018). *Children's Thinking: Cognitive development and individual differences*. SAGE.

- Although not required, the book website may be helpful. https://bit.ly/2CUCnnd

- Access to the university internet network to download the supplementary readings (see below) and use the OnQ class website.

Exams

There are always many questions about exams, which is understandable in a course like this because your grade is based largely on your performance on exams. Yet, from the instructor's perspective, questions like "Is this going to be on the exam" are often taken (wrongly, I'm sure) as communicating a lack of respect for the material — after all, if I'm assigning material in class I think it's important for you to know! And so, here's what I can tell you about the mid-term and the final exams:

- The exams will be a mixture of multiple choice and short answer questions. The multiple choice questions will be mostly from the textbook and

overview lectures whereas the short answer questions will be mostly from the "focus" or "controversy" sections. As the exams approach, I will try to give an example of each kind of question that may be on the exam.

- My lectures will be supported by the reading materials, but there will be some non-overlap in both directions. Importantly, there will be material from the reading that doesn't make it into lecture. **That material may be on the exam**. To a lesser extent, I might include some material in lecture that is not explicitly covered in the reading. I will try to emphasize this clearly in my lecture so you are aware of the lack of overlap. **That material may be on the exam as well**.

Exam Timing and Accommodations

The in-class midterm exam is scheduled during a class period and so I expect that everyone will be able to attend. If there are extenuating circumstances that prevent you from taking the in-class exam, you will be offered the opportunity to take a make-up mid-term exam at a mutually agreed upon time. Also, if you have registered with accommodation services (see below) and require accommodation for the mid-exam, please let me know as soon as possible and we will coordinate that. Please note that for purposes of academic integrity, the make-up midterm will not have the same format as the in-class midterm. Instead, the make up midterm will consist of four "long essay" questions, each expected to take about 20 minutes to respond to, covering the material from the classes.

The final exam will take place during the Winter Term exam period. The specific date for our exam will be posted via SOLUS on the Friday before Reading Week. Students should delay finalizing any travel plans until after the examination schedule has been posted. Exams will not be moved or deferred to accommodate employment, travel/holiday plans or flight reservations. Also, as indicated in Academic Regulation 8.3, students must write all final examinations in all on-campus courses on the Kingsdton Campus.

If you need accommodation for the final exam, please arrange that with Queen's disability service at:

http://www.queensu.ca/hcds/ds/students/accommodations.htm

Project Paper

In addition to the class exams, I will ask each of you to complete a short "project paper" in which you critically examine one of your common-sense assumptions about something relevant to children's cognitive or language development. For instance, it is commonly believed that children have different styles of learning in formal educational settings whereby some children might be "audio learners" whereas others might be "visual learners." Is this true? How about the idea that

children are really gullible? Your job will be to examine and report back about some assumption like this, using what we learn in class and a little bit of your own library research. There is another handout that provides the details for this assignment.

Grading Scheme

- 30% Mid-term (in-class) exam 1

- 30% Project paper

- 40% Final exam

Grading Method

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Grade	Range
A+	90–100
A	85–89
A–	80–84
B+	77–89
B	73–76
B–	70–72
C+	67–69
C	63–66
C–	60–62
D+	57–59
D	53–56
D–	50–52
F	<50

Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see www.academicintegrity.org) and by the quality of courage. These values and qualities are central to the building, nurturing and sustaining of an academic community in which all members of the community

will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University.

Students are responsible for familiarizing themselves with and adhering to the regulations concerning academic integrity. General information on academic integrity is available at Integrity@Queen's University, along with Faculty or School specific information. Departures from academic integrity include, but are not limited to, plagiarism, use of unauthorized materials, facilitation, forgery and falsification. Actions which contravene the regulation on academic integrity carry sanctions that can range from a warning, to loss of grades on an assignment, to failure of a course, to requirement to withdraw from the university.

Turnitin

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments to through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content, and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

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Accessibility & Accommodation

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact

Student Wellness Services (SWS) and register as early as possible. For more information, including important deadlines, please visit the Student Wellness website at: http://www.queensu.ca/studentwellness/accessibility-services/

Extenuating Circumstances

The Senate Policy on Academic Consideration for Students in Extenuating Circumstances (https://tinyurl.com/yaj7be64) was approved in April, 2017. Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and which have a direct and substantial impact on their ability to meet essential academic requirements. The Faculty of Arts and Science has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances, which can be found at: http://www.queensu.ca/artsci/accommodations

Course Schedule and Readings

Week	Date	Topic	Reading
1	Mon, 1/6	What is Cognitive Development	Ch. 1
	Thu, 1/9	Piaget: The legend	Ch. 5: 154–180
2	Mon, 1/13	Biological Factors	Ch. 2
	Thu, 1/16	Focus: Biological bases of dyslexia	SR1
3	Mon, 1/20	Cultural Factors	Ch. 3
	Thu, 1/23	Controversy: Tablets vs. Print Books	SR2
4	Mon, 1/27	Infant perception & cognition	Ch. 4
	Thu, 1/30	Focus: Statistical learning	SR3
5	Mon, 2/3	Symbolic understanding	Ch. 5 (less Piaget)
	Thu, 2/6	Focus: Scale errors	SR4
6	Mon, 2/10	Focus: Causal Understanding	SR5
	Thu, 2/13	**Midterm**	
		READING WEEK	
7	Mon, 2/24	Core Domains of Understanding	Ch. 6
	Thu, 2/27	Controversy: False belief in infancy	SR6
8	Mon, 3/2	Executive Functioning	Ch. 7
	Thu, 3/5	Controversy: The "marshmallow test"	SR7
9	Mon, 3/9	Memory Development	Ch. 8
	Thu, 3/12	Focus: Children as eyewitnesses	SR8
10	Mon, 3/16	Language Development	Ch. 9
	Thu, 3/19	Critical periods	SR9
11	Mon, 3/23	Word learning	SR10

Supplemental Readings (SR)

1. Gabrielli, J. D. E. (2009). Dyslexia: A new synergy between cognitive neuroscience and education. *Science, 325*, 280–283.

2. Munzer, T. G., Miller, A. M., Weeks, H. M. Kaciroti, N. & Radesky, J. (2019). Parent-toddler social reciprocity during reading from electronic tablets vs print books. *JAMA Pediatrics, 173*, 1076–1083.

3. Saffran, J. R. & Kirkham, N. Z. (2018). Infant statistical learning. *Annual Reviews in Psychology, 69*, 2.1–2.23.

4. DeLoache, J. S., Uttal, D. H., & Rosengren, K. S. (2004). Scale errors offer evidence of an perception-action dissociation early in life. *Science, 304*, 1027–1029.

5. Legare, C. H. (2014). The contributions of explanation and exploration to children's scientific reasoning. *Child Development Perspectives, 8*, 101–106

6. Sodian, B. (2011). Theory of mind in infancy. *Child Development Perspectives, 5*, 39–43.

7. Kidd, C., Palmeri, H., & Aslin, R. N. (2013). Rational snacking: Young children's decision-making on the marshmallow task is moderated by beliefs about environmental reliability. *Cognition, 126*, 109–114.

8. Otgaar, H., Howe, M. L., Merckelbach, H., & Muris, P. (2018). Who is the better eyewitness? Sometimes adults but at other times children. *Current Directions in Psychological Science, 27*, 378–385.

9. Svirsky, M. A., Teoh, Su-Wooi, & Neuburger, H. (2004). Development of language and speech perception in congenitally, profoundly deaf children as a function of age at cochlear implantation. *Audiology & Neuro-Otology, 9*, 224–233.

10. Akhtar, N. (2005). The robustness of learning through overhearing. *Developmental Science, 8*, 199-209.

11. Morton, J. B. & Carlson, S. M. (2017). The bilingual advantage: Evidence and alternative views. In M. J. Hoskyn et al. (Eds.) *Executive functions in children's everyday lives: A handbook for professionals in applied psychology* (pp. xxx–xxx).

12. Gülgöz, S., et al. (2019). Similarity in transgender and cisgender children's gender development. *Proceedings of the National Academy of Sciences (USA), 116*, 24480–24485.

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