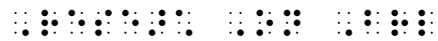


Linguistics 409: Topics in Linguistics
Research On Braille



Rice University
Spring 2020

Syllabus

Instructor: Dr. Robert Englebretson
Office: Herring 206
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Course Meetings: MWF 11:00-11:50, Herring 125

Course Canvas Site: <https://canvas.rice.edu/courses/29409>

Course Objectives and Learning Outcomes

This course introduces students to the social, cognitive, and linguistic aspects of braille, explores the relevance of braille research for linguistics and cognitive science, and highlights the relevance of linguistics and cognitive science for braille pedagogy and development. Upon completion of this course, students will have a basic understanding and appreciation of English Braille and a thorough grounding in the braille research literature. Students will also have the opportunity to help design experiments and studies for potential future research.

The course will be conducted as a seminar, focusing on discussion and analysis of source readings, and hands-on experience with braille.

This is not a course designed to teach braille for professional use or competence. While students will indeed gain a basic familiarity with braille and an in-depth background in the research literature, this course is absolutely not suitable for students wishing to fulfill a certification requirement to become a professional braille transcriber, proofreader, or Teacher of Students with Visual Impairments. If you do wish to pursue learning braille professionally, please come talk with me and I can point you to appropriate programs and resources.

REQUIRED TEXTS AND MATERIALS

Millar, Susanna. 1997. *Reading by Touch*. New York: Routledge. (This book is long out of print, and selected chapters will be made available.)

A collection of published articles, as listed in the bibliography of this syllabus.

I will give each of you a braille slate and stylus at no cost, which you can keep after the course ends.

You can use this for the short homework assignments that require a basic demonstration of braille.

Please also download the PerkyDuck braille emulation software (Windows/Mac) from

<https://www.duxburysystems.com/perky.asp> You can use this to produce braille files for the relevant homework if you'd prefer to not use the slate.

Course Requirements and Grading

<input type="checkbox"/>	Group Reading Presentation	20%
<input type="checkbox"/>	Reading Response Journal	25%
<input type="checkbox"/>	Five short homework assignments	25%
<input type="checkbox"/>	Research Proposal	30%

Course letter grades will be assigned as follows:

0-59.99%	60-69.99%	70-79.99%	80-89.99%	90-100%
F	D	C	B	A

Designations of plus and minus will be given to grades ranging within 1 percentage point of the cutoff. For example: 99.0-100% is an A+, 90.0-90.99% is an A-, 89.0-89.99% is a B+, and so on. Students who earn less-than 60% will fail the course.

*Note: This course has no midterm and no final exam. There are however **a lot** of readings, which you are expected to carefully read and actively discuss in class.

PARTICIPATION (ABSENCE POLICY): Because this is a small, seminar-style class, your involvement and attention is crucial! Students are required to attend and to actively participate in class discussion and discussion of readings. We are all adults here, and I am not going to take attendance. If you know you will have to miss a class ahead of time, it is courteous to let me know. This class works best if everyone is present and contributing to the discussion.

GROUP READING PRESENTATION: I will divide the class into five groups of students (with 4 or 5 students per group). Each group is responsible for leading and organizing the discussion of the corresponding group of articles, as shown on the reading schedule. I will hand out more information early in the semester and we will thoroughly discuss how this will work.

READING RESPONSE JOURNAL: For each day with assigned readings, you are required to write an entry in your reading journal. This doesn't have to be very long, just note anything you find especially interesting, thought-provoking, or potentially problematic with that day's readings, and any follow-up questions or things that are not clear to you. I especially encourage you to write down any research topics that the readings make you think of. I will ask you to submit your journal at three points during the semester (as shown on the syllabus). I will hand out more information early in the semester. You have three days as 'freebees'! (I.e. three class days with readings when you can choose to skip writing in your journal.) But failure to include entries for more than three days of readings this semester will lead to a deduction of 2 percentage points from your course grade for each day skipped.

HOMEWORK ASSIGNMENTS: There will be five short homework assignments due throughout the semester, as shown on the course schedule. These are designed to give you practice in reading and writing the basics of English Braille (no more than a few braille lines each), or give you the opportunity to write a short opinion piece related to issues discussed in class (no more than one single-spaced page), or to do some basic observation. More information about each assignment will be distributed in class at least a week before the due-date.

RESEARCH PROPOSAL: Each student is expected to submit a short paper (4-10 print pages), in the form of a preliminary research proposal. You will not need to carry out the study, but your paper must do the following: (1) Identify a research question, review prior literature, and explain why your question is an interesting/worthwhile topic to pursue; (2) propose precisely how you would conduct the study (subjects, materials, methods, etc.); (3) explain why the results of your question would be of significance to linguistics and cognitive science, and, conversely, why the results of your study would matter to the teaching, reading, or development of braille. You will present a quick summary of your proposal in class during the last week of the semester. The final written version of the paper is due on Canvas by 5:00pm on May 6, the last day of the final exam period. More information will be handed out later in the semester.

Rice Honor Code

In this course, all students will be held to the standards of the Rice Honor Code, a code that you pledged to honor when you matriculated at this institution. If you are unfamiliar with the details of this code and how it is administered, you should consult the Honor System Handbook at <http://honor.rice.edu/honor-system-handbook/>. This handbook outlines the University's expectations for the integrity of your academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process.

Disability Support Services

If you have a documented disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Disability Support Services (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

Course Outline

Readings preceded by **Skim!** are included only for reference purposes. You should be aware of their existence, but you don't need to read them.

Date	Topic	Reading	Assignment
WEEK 1			
1/13	Introduction and course overview	None	
1/15	Overview #2	None	
1/17	Braille in the wider culture and environment	Kleege, 2006	
WEEK 2			
1/20	No Class (Martin Luther King Holiday)		
1/22	History and development of tactile writing	Tove, 2000; Lorimer, 2000	
1/24	Unified English Braille (UEB)	Skim! ICEB, 2013	HW #1
WEEK 3			
1/27	History & social construction of blindness	Mahoney, 2014; Ferguson, 2001	
1/29	Disability Studies (Guest Lecture Dr. Zoë Wool, Rice Anthropology)	None	
1/31	History & social construction of blindness #2	None	
WEEK 4			
2/3	Blindness, touch, & braille	Heller & Gentaz, 2014 (ch. 7 & 9)	Group I
2/5	Blindness, touch, & braille #2	Bola et al. 2016	Group I
2/7	Approaches to braille education	TBA	HW #2
WEEK 5			
2/10	The neural basis of touch (Guest Lecture, Dr. Jeffrey Yau, Baylor College of Medicine)	None	
2/12	Neuroplasticity	Bedny & MacSweeney, 2019	
2/14	No Class (Midterm Recess)		
WEEK 6			
2/17	Print reading	Castles Et al. 2018	Journal
2/19	Tactual perception and braille reading	Millar Ch. 1-2	
2/21	'Show & tell Friday': braille in games and leisure; tactile graphics	None	HW #3
WEEK 7			
2/24	Comparing print and braille reading #1	Perea et al. 2012, Veispak et al. 2012	Group II
2/26	Comparing print and braille reading #2	Veispak et al. 2013, Wetzel & Knowlton 2000	Group II
2/28	'Show & tell Friday': web accessibility	None	

Date	Topic	Reading	Assignment
WEEK 8			
3/2	Hands and fingers #1	Millar ch. 3	Group III
3/4	Hands and fingers #2	Wright et al. 2009, Hughes et al. 2014	Group III
3/6	Finger tracking	Aranyanak & Reilly, 2013	HW #4
WEEK 9			
3/9	Sound and touch	Millar Ch. 4	Journal
3/11	Meaning, perception, comprehension	Millar Ch. 5	Group IV
3/13	Meaning, perception, comprehension #2	Carreiras & Alvarez, 1999; Emerson et al. 2009	Group IV
WEEK 10			
3/16-3/20 Spring Break			
WEEK 11			
3/23	Sublexical structure in braille reading	Fischer-Baum & Englebretson 2016	
3/25	Contractions #1	Hamp & Caton, 1984, Savaiano and Kearns, 2016	Group V
3/27	Contractions #2	Millar Ch. 6	Group V
WEEK 12			
3/30	Error analysis	Wells-Jensen et al. 2007	
4/1	Individual differences; braille and other disabilities	Millar Ch. 7	
4/3	Implications, conclusions, future questions	Millar Ch. 8-9	
WEEK 13			
4/6	Braille around the world; Music; IPA	Skim! Music Braille Code 2015; Skim! World Braille Usage 2013; Skim! Englebretson 2009	
4/8	Braille in mathematics and science	None	
4/10	'Show & tell Friday': technology, apps, speech synthesis, Etc.	None	
WEEK 14			
4/13	Why braille matters	Ryles 2000	Journal
4/15	Documentary: <i>Do You Dream in Color?</i> (2016)	None	HW #5
4/17	Class Canceled (Ling Spring Fling)		
WEEK 15			
4/20	Student presentations #1	None	
4/22	Student presentations #2	None	
4/24	Wrap-up/discussion	None	
FINALS WEEK			
5/6	Research Proposal Due by 5pm		

List of Readings

Readings are listed in the order in which they are assigned.

- Kleege, Georgina. 2006. "Visible braille/invisible blindness." *Journal of Visual Culture*, 5 (2): 209-218.
- Tobe, Carol B. 2000. "Embossed printing in the United States". In *Braille into the Next Millennium*, 40-71, Washington, DC: Library of Congress, National Library Service for the Blind and Physically Handicapped.
- Lorimer, Pamela. 2000. "Origins of braille". In *Braille into the Next Millennium*, 18-39. Washington, DC: Library of Congress, National Library Service for the Blind and Physically Handicapped.
- International Council on English Braille. 2013. *The Rules of Unified English Braille* 2nd ed. [http://www.iceb.org/Rules%20of%20Unified%20English%20Braille%202013%20\(linked\).pdf](http://www.iceb.org/Rules%20of%20Unified%20English%20Braille%202013%20(linked).pdf)
- Mahoney, Rosemary. 2014. Op-Ed "Why do we fear the blind?" *New York Times*, JAN. 5, 2014. <http://www.nytimes.com/2014/01/05/opinion/sunday/why-do-we-fear-the-blind.html?pagewanted=all>
- Ferguson, Ronald J. 2001. *We Know Who We Are: A History of the Blind in Challenging Educational and Socially Constructed Policies: A Study in Policy Archeology*. San Francisco: Caddo Gap Press. (Ch. 2, Pp. 37-64.)
- Heller, Morton A. and Edouard Gentaz. 2014. *Psychology of Touch and Blindness*. New York: Psychology Press. (Ch. 7 & 9, Pp. 114-131 & 150-164.)
- Bola, Łukasz, et al. 2016. "Braille in the Sighted: Teaching Tactile Reading to Sighted Adults" *PLoS ONE*. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0155394>
- Bedny, Marina and Mairéad MacSweeney. 2019. "Insights into the neurobiology of language from individuals born blind or deaf." In Peter Hagoort, Ed. *Human Language : From Genes and Brains to Behavior*, 509-525. Cambridge, MA: MIT Press.
- Castles, Anne, Kathleen Rastle, and Kate Nation. 2018. "Ending the reading Wars: Reading acquisition From novice to expert." *Psychological Science in the Public Interest*, 19(1), 5–51.
- Millar Ch. 1-2.
- Perea, Manuel, Cristina García-Chamorro, Miguel Martín-Suesta, and Pablo Gómez. 2012. "Letter position coding across modalities: the case of braille readers". *PLoS ONE* 7 (10): e45636.
- Veisapak, Anneli, Bart Boets, and Pol Ghesquière. 2012. "Parallel versus sequential processing in print and braille reading". *Research in Developmental Disabilities* 33 (6): 2153-2163.

Veispak, Anneli, Bart Boets, and Pol Ghesquière. 2013. "Differential cognitive and perceptual correlates of print reading versus braille reading". *Research in Developmental Disabilities* 34 (1): 372-385.

Wetzel, Robin and Marie Knowlton. 2000. "A comparison of print and braille reading rates on three reading tasks". *Journal of Visual Impairment and Blindness* 94 (3): 146-154.

Millar Ch. 3.

Wright, Tessa, Diane P. Wormsley, and Cheryl Kamei-Hannan. 2009. "Hand movements and braille reading efficiency: Data from the Alphabetic Braille and Contracted Braille Study". *Journal of Visual Impairment & Blindness* 103 (10): 649-661.

Hughes, Barry, Amber McClelland, & Dion Henare. 2014. "On the nonsmooth, nonconstant velocity of braille reading and reversals." *Scientific Studies of Reading*, 18 (2): 94-113.

Aranyanak, Inthraporn & Ronan G. Reilly. 2013. "A system for tracking braille readers using a Wii Remote and a refreshable braille display". *Behavior Research Methods* 45 (1): 216-228.

Millar Ch. 4.

Millar Ch. 5.

Carreiras, Manuel and Carlos J. Alvarez. 1999. "Comprehension processes in braille reading". *Journal of Visual Impairment & Blindness* 93 (9): 589-595.

Emerson, Robert Wall, M. Cay Holbrook, and Frances Mary D'Andrea. 2009. "Acquisition of literacy skills by young children who are blind: Results from the ABC Braille Study". *Journal of Visual Impairment & Blindness* 103 (10): 610-624.

Fischer-Baum, Simon and Robert Englebretson. 2016. "Orthographic units in the absence of visual processing: Evidence from sublexical structure in braille." *Cognition*, 153, 161-174.

Hamp, Eric P. and Hilda Caton. 1984. "A fresh look at the sign system of the braille code". *Journal of Visual Impairment and Blindness* 78 (5): 210-214.

Savaiano, Mackenzie and Devin M. Kearns. 2016. "Alignment of braille and print English for learning and instruction." Paper presented at the 2016 General Assembly of the American Council on English Braille, Baltimore, MD.

Millar Ch. 6.

Wells-Jensen, Sheri, Aaron Schwartz, and Bradley Gosche. 2007. "A cognitive approach to braille errors". *Journal of Visual Impairment and Blindness* 101: 416-428.

Millar Ch. 7.

Millar Ch. 8-9.

Englebretson, Robert. 2009. "An overview of IPA Braille: An updated tactile representation of the International Phonetic Alphabet". *Journal of the International Phonetic Association* 39 (1): 67-86.

Braille Authority of North America. 2015. *Music Braille Code*.
www.brailleauthority.org/music/Music_Braille_Code_2015.pdf

Perkins School for the Blind, International Council on English Braille, & Library of Congress. (2013). *World Braille Usage* (3rd ed.).
<http://www.perkins.org/assets/downloads/worldbrailleusage/world-braille-usage-third-edition.pdf>

Ryles, Ruby. 2000. "Braille as a predictor of success". In *Braille into the Next Millennium*, 462-491, Washington, DC: Library of Congress, National Library Service for the Blind and Physically Handicapped.