

Linguistics 409: Topics in Linguistics
Research On Braille



Rice University
Fall 2021

Syllabus (Revised Sept. 16)

Class Meetings: MWF 2:00-2:50pm, Herring 125

Course Canvas Site: <https://canvas.rice.edu/courses/42981>

Instructor: Dr. Robert Englebretson ("Dr. E") he/him/his
Physical Office: Herring 206
Office Hours: By Appointment on Zoom
E-mail: reng@rice.edu (I answer emails within 24 hours, usually sooner.)
Office Phone: 713 348-4776 (Leave a voicemail and I will return your call ASAP.)

Course Objectives and Learning Outcomes

This course introduces students to the social, cognitive, and linguistic aspects of braille. We will also discuss the social and historical background of blindness and disability in the United States. We will explore the relevance of braille research for linguistics and cognitive science, and highlight 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 videos, and hands-on experience with braille.

This is not a course designed to teach braille for professional use or competence. Students will gain cursory familiarity with (English) braille, along with an in-depth background in the research literature. If you wish to pursue learning braille professionally, please talk with me, and I can point you to appropriate resources and university programs elsewhere.

Required Texts And Materials

A collection of published articles and videos, as listed in the bibliography of this syllabus. You can access these from the 'Readings and Videos' page on our Canvas site, which will link to the online journal holdings in Fondren Library, and to other sites as relevant.

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 two 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

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|---|-----|
| ❑ Attendance and active participation in class | 15% |
| ❑ Discussion points (course blog) before each class | 30% |
| ❑ Five short homework assignments | 25% |
| ❑ 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: Because this is a seminar-style class, your involvement and attention is crucial! During the fall 2021 semester, Ling 409 is being taught fully online for at least the first two weeks due to the coronavirus. Class sessions will take place synchronously on Zoom. If/when we return to in-person instruction, I will continue to stream the class meetings on Zoom and record them. You are expected to attend synchronously on Zoom (during the first two weeks), and then in-person if you are able. If you are unable to attend class on a given day, you may 'attend' asynchronously on Canvas, where recordings of each class will be posted. For privacy reasons, these recordings are only available to students registered in the course, and they must be streamed and are not downloadable. Students are expected to arrive on time via Zoom, and to be actively engaged in the classroom. However, you are not required to use your video camera unless you wish to do so. During in-class discussion, be prepared to use your microphone, know how to 'mute' and 'unmute' your audio, and use the chat window and the 'raise hand' function when you have questions. 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.

DISCUSSION POINTS: For each day with assigned readings (indicated by an asterisk on the course schedule), you are required to submit three discussion points: questions, quibbles, observations, or suggestions for follow-up research. (Note this means three discussion points per class day, not three for each article.) Submit your discussion points as a blog entry on the course discussion thread on Canvas by noon on the day we will be discussing the reading. You are encouraged to read and comment on each other's blog entries if you wish to do so. Discussion points are worth 30% of your course grade. You have three freebees! But failure to submit discussion points for more than three of the required days this semester will lead to a deduction of 2 percentage points from your course grade for each day skipped. Blog entries are due by noon on the day of discussion.

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 1-2 single-spaced printed pages).

RESEARCH PROPOSAL: Each student is expected to submit a short paper (5-10 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 11:59pm on Dec. 14, the last day of the final exam period.

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.

Title IX Responsible Employee Notification

Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination, or relationship, sexual, or other forms of interpersonal violence to seek support from The SAFE Office.

At Rice University, unlawful discrimination in any form, including sexual misconduct, is prohibited under Rice Policy on Harassment and Sexual Harassment (Policy 830) and the Student Code of Conduct. As the instructor and a responsible employee, I am required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to the Title IX Coordinator on campus. Although responsible employees are required to make this notification, it is the student's choice to pursue a formal complaint. The goal is to make sure that students are aware of the range of options available and have access to the resources when in need. For more information, please visit safe.rice.edu, titleix.rice.edu, or email titleixsupport@rice.edu.

Course Outline

* Each item marked with an asterisk requires blog posts, due by noon on the Canvas Discussion thread. (Three freebees.)

Readings preceded by **Ref.** are included only for reference purposes. Please don't read them (unless you enjoy reading things like reference books and dictionaries...) . You should be aware of what they are and how to find them if you wish to look something up.

Date	Topic	Reading	Due
WEEK 1			
8/25	Introduction and overview of braille		
8/27	Overview of braille #2		
WEEK 2			
8/30	Braille in the wider culture and environment	*Kleege 2006	
9/1	Disability Studies; Ableism		
9/3	Disability rights in the US (no in-class meeting) Watch "Crip Camp" documentary before Weds.		HW #1
WEEK 3			
9/6	No Class (Labor Day)		
9/8	Discussion; History and social construction of disability	*Crip Camp	
9/10	History and Social Construction of Blindness	*Ferguson 2001 ch 2	
WEEK 4			
9/13	History and development of tactile writing	Tobe 2000; Lorimer 2000	
9/15	Overview of Unified English Braille (UEB)	Ref. ICEB 2013	
9/17	Blindness, touch, & braille	*Heller & Gentaz 2014 ch 7 & 9	HW #2
WEEK 5			
9/20	Blindness and visual vocabulary	*Bedny et al. 2019	
9/22	Blindness, touch, and braille #2	*Millar 1997 ch 2	
9/24	Blindness, touch, & braille #3	*Bola et al. 2016; *Oshima et al. 2014.	
WEEK 6			
9/27	How many braille readers? (guest lecture, Dr. Frances Mary D'Andrea, U of Pittsburgh)		
9/29	Neuroplasticity	*Bedny & MacSweeney 2019	
10/1	Print reading	*Castles et al. 2018	Hw #3
WEEK 7			
10/4	Comparing print and braille reading #1	*Perea et al. 2012 *Veispak et al. 2012	
10/6	Comparing print and braille reading #2	*Veispak et al. 2013; *Wetzel & Knowlton 2000	

10/8	Teaching Braille (no in-class meeting) Watch Wormsley Keynote video before Weds.		
WEEK 8			
10/11	No Class (Midterm Recess)		
10/13	Teaching Braille #2 (Discuss Wormsley video)	*Wormsley Keynote Video	
10/15	Hands and fingers	*Wright et al. 2009; *Hughes et al. 2014	
WEEK 9			
10/18	Finger tracking	Aranyanak & Reilly 2013	
10/20	Meaning, perception, comprehension	*Carreiras & Alvarez 1999	
10/22	Sublexical structure in braille reading	*Fischer-Baum & Englebretson 2016	HW #4
WEEK 10			
10/25	Contractions #1	*Hamp & Caton 1984; *Savaiano and Kearns 2016	
10/27	Contractions #2	*Millar 1997 Ch 6	
10/29	The ABC Braille Study	*Emerson et al. 2009	
WEEK 11			
11/1	Error analysis	*Wells-Jensen et al. 2007	
11/3	Braille in mathematics and science		
11/5	'Show & tell Friday': web accessibility		
WEEK 12			
11/8	Braille around the world; Music; IPA	Englebretson 2009; Ref. Music Braille Code 2015; Ref. World Braille Usage 2013	
11/10	Why braille matters #1	*Ryles 1996	
11/12	'Show & tell Friday': braille in games and leisure; tactile graphics		
WEEK 13			
11/15	Perspectives on braille literacy	TBA	
11/17	Overview of Fischer-Baum, Englebretson, & Holbrook research project		
11/19	'Show & tell Friday': technology, apps, speech synthesis, Etc.		

WEEK 14

- 11/22 (No in-class meeting) Watch "Do You Dream in Color?" (2015 documentary)
 11/24 NO Class (Thanksgiving Recess)
 11/26 NO Class (Thanksgiving Recess)

WEEK 15

- 11/29 Student presentations #1 HW #5
 12/1 Student presentations #2
 12/3 Wrap-up/discussion

FINALS WEEK

- 12/14 Research Proposal Due by 11:59pm

Readings and Videos, Listed in the order they are assigned.

- Kleege, Georgina. 2006. "Visible braille/invisible blindness." *Journal of Visual Culture*, 5 (2): 209-218.
- Newnham, Nicole and James LeBrecht. 2020. *Crip Camp: A Disability Revolution*. Higher Ground Productions. <https://www.youtube.com/watch?v=OFS8SpwioZ4>
- 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.)
- 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)
- Heller, Morton A. and Edouard Gentaz. 2014. *Psychology of Touch and Blindness*. New York: Psychology Press. (Ch. 7 & 9, Pp. 114-131 & 150-164.)
- Bedny, Marina, Jorie Koster-Hale, Giulia Elli, Lindsay Yazzolino, and Rebecca Saxe. 2019. "There's more to 'sparkle' than meets the eye: Knowledge of vision and light verbs among congenitally blind and sighted adults." *Cognition*, 189: 105-115.
- Millar, Susanna. 1997. *Reading by Touch*. New York: Routledge. (Ch. 2, pp. 14-55.)

- Bola, Łukasz, et al. 2016. "Braille in the Sighted: Teaching Tactile Reading to Sighted Adults" *PLoS ONE*.
- Oshima, K., T. Arai, S. Ichihara, and Y. Nakano. 2014. "Tactile sensitivity and braille reading in people with early blindness and late blindness". *Journal of Visual Impairment and Blindness*, 108 (2): 122-131.
- 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.
- 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.
- Veisapak, 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.
- Wormsley, Diane P. 2021. " The Bumpy Road to Literacy." Keynote Address Presented at Tactile Reading 2021, Oslo, Norway. https://www.youtube.com/watch?v=_nBaEUe26d8
- 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.
- Carreiras, Manuel and Carlos J. Alvarez. 1999. "Comprehension processes in braille reading". *Journal of Visual Impairment & Blindness* 93 (9): 589-595.
- 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, Susanna. 1997. *Reading by Touch*. New York: Routledge. (Ch. 6, pp. 176-214.)
- 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.
- Wells-Jensen, Sheri, Aaron Schwartz, and Bradley Gosche. 2007. "A cognitive approach to braille errors". *Journal of Visual Impairment and Blindness* 101: 416-428.
- 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.
- Fuller, Abigail and Sarah Ivy. 2015. *Do you Dream in Color?*. Dark Star Pictures.