

EDUC51: EDUCATIONAL TESTING

Summer Term, 2017
12: Mon, Wed, Fri @ 12:⁵⁰ pm – 1:⁵⁵ pm
X-hr: Tuesday @ 1:²⁰ pm – 2:¹⁰ pm
Kemeny 007

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Office Hours: Thursday @ 11:⁰⁰ am – 2:⁰⁰ pm

COURSE OVERVIEW

"The test" has become the ubiquitous measure of performance for evaluating educational achievement in the US and in many other nations. Academic test scores are used by teachers to evaluate what students have learned, by administrators to evaluate the performance of teachers, by the government to evaluate the performance of school districts, and by parents to decide where to raise a family. But how we should use tests is still a hotly debated question, with real consequences for the entire educational system.

This course is focused on practical and theoretical issues regarding how we evaluate academic performance and how various factors influence test scores. The term is divided into two major sections:

1. The first section focuses on achievement testing. What kinds of tests are used in school to measure learning? How do teachers, administrators, policy developers, and students use these tests? What are the key concepts in understanding what a test measures and how it should be interpreted? What can (and can't) a test tell us about the achievement of a student, of a teacher, of a district, and of a nation?
2. The second section of the course focuses on aptitude testing. What makes one student different from another? What factors determine success in a school or who should be admitted to a certain college? Which aspects of one's cognition, personality, and development are relevant to educational performance? How should we deal with these individual differences?

From this course, students will gain a broad understanding of the lay of the educational assessment landscape, and a deep understanding of the promises and perils of academic testing. Developing the skills of reading research and opinion articles, discussing and understanding different interpretations of data, and writing for a scientific audience are central to these goals and therefore are critical components of the course.

GRADING OVERVIEW

30%	Midterm Exams (2)
30%	Final Exam
15%	Position Papers
7%	Pop Quizzes
7%	Class Debate
7%	Social Impact Practicum
3%	Class Participation and Attendance
1%	Research Participation (<i>or alternative assignment</i>)

ASSESSMENTS and ASSIGNMENTS

Mid-term examinations (30%) – **Monday, July 10th and Monday, August 7th**

- Mix of short answer and fill-in-the-blank questions
- Covers all assigned material in the current unit (readings, slides, presentations)

Final examination (30%) – **Saturday, August 26th @ 3:00 pm**

- Mix of short answer and fill-in-the-blank questions
- Covers all material from the course
- Emphasis on material since second midterm

Pop Quizzes (7%)

Six quizzes throughout the term:

- Will consist of short answer and fill-in-the-blank questions
- These are intended to be low-stakes opportunities for both you and me to gauge your understanding of the material

Class Participation and Attendance (3%)

- Arrive on time for each class
- Prepare for all class discussions and be an active class member (e.g., read the assigned materials, stay awake during class, stay off internet, etc.)

ASSESSMENTS and ASSIGNMENTS (continued)

Position Papers (15%)

The issues surrounding educational testing – as with many aspects of education – are complicated, emotionally charged, and have real-world consequences for students across the country. Therefore, an important skill to develop is the ability to distill a large body of opinions and research on a given topic down to a concise set of practical actions that can be argued for and implemented. Accordingly, in this course you will practice doing just that, in the form of writing short position papers (~ 1,000 words) which present a clear case for a specific course of action regarding current topics in educational testing.

Four papers are due at various points throughout the term on the following topics:

- **#1: *How should teachers be evaluated?* – Due: Friday, June 30**
- **#2: *Should every state use the same test?* – Due: Monday, July 24**
- **#3: *Should we place students on academic tracks?* – Due: Friday, August 4**
- **#4: *How should elementary schools use aptitude tests?* – Due: Weds., Aug. 16**

- The full description of the assignment for each paper is posted on Canvas under ‘Assignments > Position Papers’

- On the day the papers are due, we will discuss them in class in the following way:
 - o *First, each student discusses his/her paper in a small group,*
 - o *Then each group agrees on a position (or agrees to disagree),*
 - o *Finally, one member of each group presents the group’s position to the class and we summarize discussion of the topic as a whole class*

- For each position paper I’m looking for a well-researched, well-reasoned essay relating to your take on each topic, of roughly 1,000 words in length (about 3 double-spaced pages)

- Each paper must reference at least 4 sources (peer-reviewed journal articles, news pieces, etc.) that were not assigned in class; and remember: always cite your sources when you assert a fact

- *Two of the topics are not tied to the class debates (Paper #1 + #4 = 5% of your grade) and the other two are tied to the debate topics (Paper #2 + #3 = 10% of your grade)*

- Each paper, including the ones linked to the debates, is an individual assignment (not a group project), and will be graded as such – *you are expected to do your own research and convey your own assessment and understanding of the material*

ASSESSMENTS and ASSIGNMENTS (continued)

Debates (7%)

Frequently, educators, administrators, and policy-makers must deal with tricky issues and decide on the best path forward based on the available evidence. That evidence will never be perfect, and on many topics reasonable people will disagree. Therefore, it is important to develop the ability to synthesize information and carry out an informed discussion in which you attempt to convince others of your position and listen to their perspective and opinions as well. Accordingly, the purpose of this assignment is to research a given topic relating to a current issue in education, and to participate in an in-class debate in which you argue one side of that issue convincingly.

On two separate occasions, two groups will debate a given motion – one group will argue for the motion and one against:

- **The first debate (July 21st) will focus on the motion: “All states should adopt a national standards-based test for math and English Language Arts.”**

- **The second debate (August 2nd) will focus on the motion: “Students would benefit from secondary-level academic tracking (beginning in 6th grade).”**

- Each group will research the assigned topic and, as a group, decide on the best evidentiary and logical support for their designated position (for or against)
- Each group will divide the relevant aspects of their argument amongst their members such that *all team members except one* will make an opening statement reflecting a different aspect of their team’s overall argument
- Following the opening statements, class members who are not debating (i.e., the audience), will each ask a question directed at one or both teams
- Finally, the team member on each team who *did not* make an opening statement will make a closing statement summarizing his or her team’s position and incorporating points that were raised during the debate
- At the start of the debate, I will poll the audience to determine what percentage agrees with the motion prior to the debate. I will poll again afterwards to see if anyone was persuaded by the debate to change his or her mind. The team who persuades the most audience members to choose their side wins the debate. In other words, the goal is to use facts and reasoned argument to change minds.
- Prior to the debate, each team will post 1 reading to Blackboard that they deem the most pertinent for the audience to read in advance. These readings are to be posted on Blackboard no later than 1 week preceding the debate.
- Audience members should form their initial opinions based on these readings
- A position paper related to the motion will be due the class following each debate

ASSESSMENTS and ASSIGNMENTS (continued)

Social Impact Practicum (7%)

An exciting new aspect of this course is the opportunity to participate in a Social Impact Practicum (SIP) in which you will work with classmates on a research project that will be of direct use to a community partner organization. This is a chance for your work in this course to have a real impact for educators in our own Upper Valley community!

- **This term, we have partnered with a local educational organization, the Upper Valley Educators Institute (UVEI), to review the literature and help generate a generalizable approach to evaluating learning improvement in particular courses**
- A complete description of this assignment is on Canvas under ‘Assignments > SIP’)
- In short, you will work with your group to review the literature on evaluation of learning in your specific content area (e.g., elementary math, secondary English Language Arts, etc.), then you will generate suggestions for the UVEI to help develop measures of learning improvement
- During the last week of the term, the groups will share their work with the class

Excerpt from the UVEI’s SIP description:

Description of Community Partner:

“The Upper Valley Educators Institute (UVEI) prepares, inspires and supports K-12 teachers and school leaders to improve the quality of education for learners in their classrooms, schools and communities. They do this by engaging reflective educators in developing their knowledge, understanding and clinical practice for the benefit of their students and colleagues.”

Social Impact Practicum Description:

“The Upper Valley Educators Institute is in the business of improving schools and training educators to teach within them. That said, the majority of academic research comes from large data sets whose findings cannot be directly applied in real-time to determine whether schools/courses/teachers are improving. UVEI would like to come up with an evidence-based general method for identifying practical and quantifiable indicators to measure improvement in courses (i.e., remedial math, etc.). UVEI hopes to better understand the process by which one develops high-leverage and high-impact measures in real time without waiting many years after a study comes out to assess progress.”

ASSESSMENTS and ASSIGNMENTS (continued)

Research Participation (1%)

The goal of this assignment is to provide you with an insightful perspective on how research studies are conducted. Please complete one of the following options by **Wednesday, August 23rd**:

Option #1:

Volunteer to participate in lab research in the Education Department (one study)

Volunteer to participate in one research studies conducted by any research lab in the Education Department. Specific instructions on how to sign up for a research study are posted on Canvas. To get credit, you must hand in a signed *EDUC16 Participant Confirmation Form (one signed copy for each study in which you participate)* to me in class anytime before **Wednesday, August 23rd**. A copy of the form is posted on Canvas.

Option #2:

Write two methods critiques of published research articles (approx. 1 page each)

If you are unable or choose not to participate in a research study, you may write an in-depth critique of the methods employed in a published research article. First, locate two empirical articles that were not assigned for this course. Then, for each study, you will write approximately half a page (double-spaced, 12pt font) that explains one aspect of the study procedure that you think the researchers could improve upon without sacrificing the scientific integrity of the study. Be sure to explain why this change is relevant to the authors' conclusions and to how the authors expect the results will generalize to other individuals or other situations that were not directly tested. Lastly, on the remainder of the page, briefly describe a research question that builds on the current study but that is not fully addressed by the methods in this article. In other words, given the results of the current study, *what is the next question you would like the researchers to address?* Describe how this research question follows from the results of the current study and briefly outline the new methods that the researchers could use to address this question. Hand in your overview to me in class anytime before **Wednesday, August 23rd**. Attach a copy of the first page of the empirical article, including the abstract.

GENERAL POLICIES

- 1. Read all materials and prepare for class.** You are expected to read the materials posted on Blackboard *before* each class. Be prepared to discuss that material *in class*. Everyone is expected to come to every class and to arrive on time. You are also expected to contribute to class discussion. You will learn the material better and others will learn from you. The success of this course depends on everyone coming to class prepared and ready to discuss the material. Both attendance (on-time) and preparation for class will determine a portion of your grade (see “Assignments and Assessments” below).
- 2. Before you turn in your papers...** make sure that you use 12-point Times New Roman font, that you double-space the whole document, that your print margins are 1-inch on all sides (not the default in *Word*), that all your pages are numbered, and that your document is stapled together (if printed). For citations in all papers, you must use APA Style formatting (refer to the APA Style Manual or online guides, such as: <http://owl.english.purdue.edu/owl/resource/560/01/>)
- 3. Tell me sooner rather than later.** If you know ahead of time that you will be missing a class, e.g., for sports, please let me know in advance in order to avoid losing participation credit. Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.
- 4. ASSUME THAT I WILL NOT ACCEPT LATE ASSIGNMENTS.**
- 5. Cell phones are not to be used in class.** If an emergency arises that requires the use of a phone, please quietly excuse yourself from the room to respond.
- 6. Accommodations.** Students with learning, physical, or psychiatric disabilities enrolled in this course who may need disability-related classroom accommodations are encouraged to make an office appointment to see me early in the semester (i.e., within the first two weeks). If you have not done so already, students requiring disability-related accommodations should register with the Student Accessibility Services office (301 Collis Student Center).
Dartmouth’s policies and resources: <http://www.dartmouth.edu/~accessibility>
Contact info: 646-9900, Student.Accessibility.Services@Dartmouth.edu
- 7. Plagiarism is unacceptable.** All work submitted as your own must be written by you and not previously submitted for any other class. It is important to attribute material that is the work of others to the original source. If you are unsure how to properly cite a source, please consult with me prior to handing in an assignment (and see: <http://www.dartmouth.edu/~writing/sources/>). You should be familiar with Dartmouth’s Honor Principle, which applies to all courses at Dartmouth (available here: www.dartmouth.edu/~uja/honor/). I do not expect any violations of this code, but if any concerns do arise I will forward all related materials to Dartmouth’s Committee on Standards.

SCHEDULE of TOPICS (ASSIGNED READINGS ARE POSTED ON CANVAS)

1. Friday, June 23

Introduction and course overview; getting to know you

Readings:

- Syllabus: EDUC 51

SECTION I: MEASURING ACHIEVEMENT

2. Saturday, June 24

Evolution of testing in the US: *how did we get here?*

Readings:

- The Evolution of American Testing (pp. 46-73), in Koretz, D. M. (2009). *Measuring up: What educational testing really tells us*. Harvard University Press.
- Lee, J. (2008). Is Test-Driven External Accountability Effective? Synthesizing the Evidence From Cross-State Causal-Comparative and Correlational Studies. *Review of Educational Research*, 78(3), 608–644. doi: 10.3102/0034654308324427

3. Monday, June 26

Current policies and issues in standardized testing: *why are there so many tests?*

Readings:

- Excerpt from “The Test: Why our schools are obsessed with standardized testing but you don’t have to be” by Anya Kamenetz
- No Child Left Behind Has Finally Been Left Behind. (2015) *US News and World Report*.
- Wiliam, D. (2010). Standardized Testing and School Accountability. *Educational Psychologist*, 45(2), 107–122. doi: 10.1080/00461521003703060

4. Wednesday, June 28

Assessing the assessors: *how are teachers certified and evaluated on the job?*

Readings:

- Controversial teacher evaluation method is on trial — literally — and the judge is not amused. (2015) *The Washington Post*.
- Newton, X. A., Darling-Hammond, L., Haertel, E., & Thomas, E. (2010). Value-Added Modeling of Teacher Effectiveness: An Exploration of Stability across Models and Contexts. *Education Policy Analysis Archives*, 18(23), n23.
- Kane, T. J., & Staiger, D. O. (2008). *Estimating teacher impacts on student achievement: An experimental evaluation*. National Bureau of Economic Research.
- Darling-Hammond, L., Amrein-Beardsley, A., Haertel, E., & Rothstein, J. (2012). Evaluating Teacher Evaluation. *Phi Delta Kappan*, 93(6), 8–15.

5. Friday, June 30

The teacher evaluation controversy: *is there a better way?*

DUE: Position Paper 1 – How should teachers be evaluated?

Readings:

- Ho, A. D., & Kane, T. J. (2013). The Reliability of Classroom Observations by School Personnel. Research Paper. MET Project. *Bill & Melinda Gates Foundation*. Retrieved from <http://eric.ed.gov/?id=ED540957>
- Chetty, R., Friedman, J. N., & Rockoff, J. E. (2011). *The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood*. National Bureau of Economic Research.
- Kane, T. J., McCaffrey, D. F., Miller, T., & Staiger, D. O. (2013). Have We Identified Effective Teachers? Validating Measures of Effective Teaching Using Random Assignment. Research Paper. MET Project. *Bill & Melinda Gates Foundation*. Retrieved from <http://eric.ed.gov/?id=ED540959>

6. Monday, July 3

Test construction and validation: *what is a test score anyway?*

Readings:

- What Is a Test?; and What We Measure (pp. 16-45), in Koretz, D. M. (2009). *Measuring up: What educational testing really tells us*. Harvard University Press.
- Giving Meaning to Scores, excerpt (pp. 66-108), in Thorndike, R. M. (2010). *Measurement and evaluation in psychology and education (8th ed.)*. Boston: Prentice Hall.
- Error and Reliability (pp. 143-179), in Koretz, D. M. (2009).

7. Wednesday, July 5

Side-effects of test-based accountability: *what's the deal with grade inflation?*

Readings:

- What the Ivies can learn from Wellesley. (2014). *The Economist*.
- Koretz, D. (2005). *Alignment, high stakes, and the inflation of test scores*. National Center for Research on Evaluation, Standards, and Student Testing, Center for the Study of Evaluation, Graduate School of Education & Information.
- Carey, T., & Carifio, J. (2012). The Minimum Grading Controversy: Results of a Quantitative Study of Seven Years of Grading Data From an Urban High School. *Educational Researcher*, 41(6), 201–208. <https://doi.org/10.3102/0013189X12453309>

8. Friday, July 7

Portfolios: *a better assessment and the solution to grade inflation?*

Readings:

- Koretz, D. (1998). Large-scale Portfolio Assessments in the US: evidence pertaining to the quality of measurement. *Assessment in Education: Principles, Policy & Practice*, 5(3), 309–334. doi: 10.1080/0969595980050302

- Burner, T. (2014). The potential formative benefits of portfolio assessment in second and foreign language writing contexts: A review of the literature. *Studies in Educational Evaluation*, 43, 139–149. <https://doi.org/10.1016/j.stueduc.2014.03.002>
- Chang, C.-C., Liang, C., & Chen, Y.-H. (2013). Is learner self-assessment reliable and valid in a Web-based portfolio environment for high school students? *Computers & Education*, 60(1), 325–334. <https://doi.org/10.1016/j.compedu.2012.05.012>

9. Monday, July 10

*** EXAM #1 ***

10. Wednesday, July 12

Formative assessments: how should we use homework and quizzes?

Readings:

- Wimmer, H., Powell, L., Kilgus, L., & Force, C. (2017). Improving Course Assessment via Web-based Homework. *International Journal of Online Pedagogy and Course Design (IJOPCD)*, 7(2), 1–19. <https://doi.org/10.4018/IJOPCD.2017040101>
- McDaniel, M. A., Agarwal, P. K., Huelser, B. J., McDermott, K. B., & Roediger, H. L. (2011). Test-enhanced learning in a middle school science classroom: The effects of quiz frequency and placement. *Journal of Educational Psychology*, 103(2), 399–414. <https://doi.org/10.1037/a0021782>
- Roediger, H. L., & Karpicke, J. D. (2006). The Power of Testing Memory: Basic Research and Implications for Educational Practice. *Perspectives on Psychological Science*, 1(3), 181–210. <https://doi.org/10.1111/j.1745-6916.2006.00012.x>

11. Friday, July 14

Extending the model: how does your community influence your test scores?

Readings:

- Helping Children Thrive. (2016, June 11). *The New York Times*.
- Oreopoulos, P., Brown, R. S., & Lavecchia, A. M. (2014). *Pathways to education: An integrated approach to helping at-risk high school students*. National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w20430>
- Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology*, 24(6), 645–662. <https://doi.org/10.1016/j.appdev.2003.09.002>

12. Monday, July 17

High school graduation assessments: what should be required to graduate?

Readings:

- Jones, B. (2017). In controversial move, LAUSD's Deasy wants to raise high-school graduation requirements. *Los Angeles Daily News*.

- Dounay, J. (2008). Dispelling the Myths About the Negative Effects of Raising High School Graduation Requirements. *Education Commission of the States Policy Brief*.
- Palardy, G. J. (2013). High School Socioeconomic Segregation and Student Attainment. *American Educational Research Journal*, 50(4), 714-754. <https://doi.org/10.3102/0002831213481240>
- Schiller, K. S., & Muller, C. (2003). Raising the bar and equity? Effects of state high school graduation requirements and accountability policies on students' mathematics course taking. *Educational Evaluation and Policy Analysis*, 25(3), 299-318.

13. Wednesday, July 19

TIMMS and PISA: how does the US rate on international tests?

Readings:

- PISA's Worldwide Lessons in Equity and Excellence. (2016). *Alliance for Education*.
- Akiba, M., LeTendre, G. K., & Scribner, J. P. (2007). Teacher Quality, Opportunity Gap, and National Achievement in 46 Countries. *Educational Researcher*, 36(7), 369-387. <https://doi.org/10.3102/0013189X07308739>
- Peterson, P. E., Woessmann, L., Hanushek, E. A., & Lastra-Anadón, C. X. (2011). Globally Challenged: Are US Students Ready to Compete? The Latest on Each State's International Standing in Math and Reading. PEPG 11-03. *Program on Education Policy and Governance, Harvard University*. Retrieved from <http://eric.ed.gov/?id=ED526954>

14. Friday, July 21

Debate #1: All states should adopt a national standards-based test for math and English Language Arts.

Readings:

- TBD

SECTION II: MEASURING APTITUDES, ABILITIES, AND TRAITS

15. Monday, July 24

SAT, ACT, and other college entrance exams: what do they actually predict?

DUE: Position Paper 2 – Should every state use the same test? (re: Debate #1)

Readings:

- Maruyama, G. (2012). Assessing College Readiness: Should We Be Satisfied With ACT or Other Threshold Scores? *Educational Researcher*, 41(7), 252-261.
- Sackett, P. R., Kuncel, N. R., Beatty, A. S., Rigdon, J. L., Shen, W., & Kiger, T. B. (2012). The Role of Socioeconomic Status in SAT-Grade Relationships and in College Admissions Decisions. *Psychological Science*, 23(9), 1000-1007. <https://doi.org/10.1177/09567976124387323>
- Scott-Clayton, J. (2012). *Do High-Stakes Placement Exams Predict College Success?* CCRC Working Paper No. 41. Community College Research Center.

16. Wednesday, July 26

HS entrance exams and magnet schools: *do they promote or reduce equal access?*

Readings:

- Figlio, D. N., & Page, M. E. (2002). School Choice and the Distributional Effects of Ability Tracking: Does Separation Increase Inequality? *Journal of Urban Economics*, 51(3), 497-514.
- Dobbie, W., & Fryer, J. (2014). The Impact of Attending a School with High-Achieving Peers: Evidence from the New York City Exam Schools. *American Economic Journal: Applied Economics*, 6 (3), 58-75.
- Abdulkadiroglu, A., Angrist, J. D., & Pathak, P. A. (2011). *The Elite Illusion: Achievement Effects at Boston and New York Exam Schools* (Working Paper No. 17264). National Bureau of Economic Research. doi: 10.3386/w17264

17. Friday, July 28

Placing students onto different academic “tracks”: *does grouping by ability work?*

Readings:

- Thiemann, K. (2017). Ability tracking or comprehensive schooling? A theory on peer effects in competitive and non-competitive cultures. *Journal of Economic Behavior & Organization*, 137, 214-231. <https://doi.org/10.1016/j.jebo.2017.03.005>
- Gamoran, A. (1992). The Variable Effects of High School Tracking. *American Sociological Review*, 57(6), 812-828.
- Cortes, K. E., & Goodman, J. S. (2014). Ability-Tracking, Instructional Time, and Better Pedagogy: The Effect of Double-Dose Algebra on Student Achievement.
- Clark, D., & Del Bono, E. (2016). The Long-Run Effects of Attending an Elite School: Evidence from the United Kingdom. *American Economic Journal: Applied Economics*, 8(1), 150-76. <https://doi.org/10.1257/app.20130505>

18. Monday, July 31

Vocational tracking: *should we steer students towards certain career paths?*

Readings:

- Bol, T., & Van de Werfhorst, H. G. (2013). The measurement of tracking, vocational orientation, and standardization of educational systems: A comparative approach. *Gini Discussion Paper 81*.
- Eichhorst, W., Rodríguez-Planas, N., Schmidl, R., & Zimmermann, K. F. (2015). A Road Map to Vocational Education and Training in Industrialized Countries. *ILR Review*, 68(2), 314-337. <https://doi.org/10.1177/0019793914564963>
- Wiswall, M., Stiefel, L., Schwartz, A. E., & Boccardo, J. (2014). Does attending a STEM high school improve student performance? Evidence from New York City. *Economics of Education Review*, 40, 93-105.

19. Wednesday, August 2

DEBATE #2: “Students would benefit from secondary-level academic tracking (beginning in 6th grade).”

Readings:

- TBD

20. Friday, August 4

Personality testing: *what is it good for?*

DUE: Position Paper 3 – *Should we place students on academic tracks? (Debate #2)*

Readings:

- Laidra, K., Pullmann, H., & Allik, J. (2007). Personality and intelligence as predictors of academic achievement: A cross-sectional study from elementary to secondary school. *Personality and Individual Differences*, 42(3), 441–451. doi: 10.1016/j.paid.2006.08.001
- Pittenger, D. J. (1993). The utility of the Myers-Briggs type indicator. *Review of Educational Research*, 63(4), 467–488.
- Duckworth, A. L., & Seligman, M. E. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16(12), 939–944.

21. Monday, August 7

*** EXAM #2***

22. Wednesday, August 9

Testing for learning and behavioral difficulties: *what can be done and when?*

Readings:

- Pohl, S., Südkamp, A., Hardt, K., Carstensen, C. H., & Weinert, S. (2016). Testing Students with Special Educational Needs in Large-Scale Assessments – Psychometric Properties of Test Scores and Associations with Test Taking Behavior. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.00154>
- Kanai, R., & Rees, G. (2011). The structural basis of inter-individual differences in human behaviour and cognition. *Nature Reviews Neuroscience*, 12(4), 231–242.
- Wang, M.-T., & Sheikh-Khalil, S. (2014). Does parental involvement matter for student achievement and mental health in high school? *Child Development*, 85(2), 610–625. <https://doi.org/10.1111/cdev.12153>

23. Friday, August 11

Testing for other cognitive functions: *why are differences in memory important?*

Readings:

- Conway, A. R., Cowan, N., Bunting, M. F., Theriault, D. J., & Minkoff, S. R. (2002). A latent variable analysis of working memory capacity, short-term memory capacity, processing speed, and general fluid intelligence. *Intelligence*, 30(2), 163–183.

- Gathercole, S. E., & Alloway, T. P. (2008). Working memory and classroom learning. *Cognitive Development in K-3 Classroom Learning: Research Applications*, 15-38.
- Shah, P., & Miyake, A. (1996). The separability of working memory resources for spatial thinking and language processing: an individual differences approach. *Journal of Experimental Psychology: General*, 125(1), 4.

24. Monday, August 14

Intelligence: how can we test it, and does it predict academic success?

Readings:

- Deary, I. J., Strand, S., Smith, P., & Fernandes, C. (2007). Intelligence and educational achievement. *Intelligence*, 35(1), 13-21. doi: 10.1016/j.intell.2006.02.001
- Rohde, T. E., & Thompson, L. A. (2007). Predicting academic achievement with cognitive ability. *Intelligence*, 35(1), 83-92.
- Horn, J. L., & Cattell, R. B. (1966). Refinement and test of the theory of fluid and crystallized general intelligences. *Journal of Educational Psychology*, 57(5), 253-270.
- Nisbett, R. E., Aronson, J., Blair, C., Dickens, W., Flynn, J., Halpern, D. F., & Turkheimer, E. (2012). Intelligence: New findings and theoretical developments. *American Psychologist*, 67(2), 130-159. doi: 10.1037/a0026699

25. Wednesday, August 16

More about intelligence: alternative models and “non-cognitive” factors

DUE: Position Paper 4 – How should elementary schools use aptitude tests?

Readings:

- Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, 5. <https://doi.org/10.3389/fpsyg.2014.00036>
- Sternberg, R. J. (1999). Successful intelligence: Finding a balance. *Trends in Cognitive Sciences*, 3(11), 436-442.
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26. Friday, August 18

SIP presentations: day 1

Readings:

- TBD

27. Monday, August 21

SIP presentations: day 2

Readings:

- TBD

28. Wednesday, August 23

Course wrap-up: discussion of take-home messages

Saturday, August 26 @ 3pm

***** FINAL EXAM *****