Dartmouth College
Education 17
What Works in Education?

Winter Term 2019
Period 11
MWF 11:30 AM-12:35 PM
X-hour: T 12:15-1:05 PM
Building/room TBD

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Enlightened educators look to education research for well-founded evidence to help them do a better job with the children they serve.
Slavin (2004, p. 27)

Course Description

In a federally-mandated era of "evidence-based" education, what works in K-12 education? How do we know what works, and what does not? What does research show about which aspects of the classroom and school (other than content and curriculum, or what is taught) have a meaningful impact on student growth, learning, and achievement? We will consider topics such as class size, ability grouping and tracking, school start times, summer school, direct instruction, problem- and project-based learning, personalized learning, and teacher education.

Course Goals

This course is designed to provide you with opportunities to:

- construct a knowledge base about evidence-based practices in education, and
- develop and use skills involved in the critical analysis of research to identify, recognize, and evaluate evidence-based practices in education.

Required Reading

- All of the assigned readings for the course will be available electronically through links on the Canvas site for the course.
- All readings listed in the syllabus are required reading for the course.

General Requirements

- All students are expected to read the material indicated in the *Schedule* and *Reading List by Class* below before each class and be prepared to discuss that material in class.
- All students are expected to attend class regularly (including x-hours), on time, and each student is responsible for all material presented and discussed in every class. If you must miss a class, it is your responsibility to borrow notes from another student, acquire any materials that were handed out, and learn if changes have been made to the syllabus.
- I recognize that some students may wish to take part in religious observances that fall during this academic term. Should you have a religious observance that conflicts with your participation in the course, please meet with me early in the term to discuss appropriate accommodations.

- All students are expected to uphold all aspects of the Academic Honor Principle (refer to http://www.dartmouth.edu/~uja/honor). Please make sure that you are familiar with the Honor Principle, including that all work should be your own and properly cited, and make sure to ask questions if you are uncertain about how it applies in this course. Any violation of the Academic Honor Principle regarding your work in this course will result in a zero on the assignment and referral to Judicial Affairs.

Resources

- I recognize that the academic environment at Dartmouth is challenging, that our terms are intensive, and that classes are not the only demanding part of your life. There are a number of resources available to you on campus to support your wellness, including: your undergraduate dean (http://www.dartmouth.edu/~upperde/), Counseling and Human Development (http://www.dartmouth.edu/~chd/), and the Student Wellness Center (http://www.dartmouth.edu/~healthed/). I encourage you to use these resources, and come speak with me, to take care of yourself throughout the term.
- Students with disabilities who may need disability-related academic adjustments and services for this course are encouraged to see me privately as early in the term as possible. Students requiring disability-related accommodations must consult the Student Accessibility Services (SAS) office (Carson Hall, Suite 125, 603.646.9900, Student.Accessibility.Services @Dartmouth.edu). Once SAS has authorized services, please share with me the SAS Services and Consent Form so that we can implement appropriate accommodations in the course. As a first step, if you have questions about whether you qualify to receive academic adjustments and services, contact the SAS office. All inquiries and discussions will remain confidential.
- If you feel that your learning is not as efficient or effective as you would like it to be, come talk with me about approaches to this course and consider using the resources available at the Academic Skills Center (https://students.dartmouth.edu/academic-skills/about/about-asc/services).
- If you would like to further develop your research and writing skills as you work on your research project, consider taking advantage of the services offered at the Student Center for Research, Writing, and Information Technology (RWIT, http://writing-speech.dartmouth.edu/learning/rwit).

Assignments

You have one out-of-class assignment for the term: a research project. Components of the project are due throughout the term, and build on each other – so (1) be careful not to fall behind, and (2) use feedback on earlier components to strengthen later components. Assignments are due before the beginning of class on the dates indicated below. No late assignments will be accepted. The components will coalesce into a final presentation and paper. The components of the research project are:

1. Topic options (4 points; Monday, 14 January)
   Choose two aspects of a K-12 classroom or school (preferably not student-based or content-based) that you think might have an impact on student learning and achievement. Your ideas can come from multiple sources; for example, your own experiences as a student, discussions with others, or web searches. Describe each topic option in two or three sentences, and comment briefly (in two or three sentences) about why you are interested in each option.
2. First research evidence (4 points; Monday, 21 January – note: no class today)

For each of your two topic options, find one relevant, recent, primary source, peer-reviewed research article. For each article, provide an APA-style reference and address the following:

- What was the authors' question?
- What did the authors do to answer that question? Provide details, in your own words, about: study participants (e.g., who? what grade(s)? how many?), study design (e.g., was there a control group? what were the conditions?), and tasks and measures (e.g., exactly what was measured and how?)
- What did the authors find? Provide details about the results in your own words.
- How did the authors interpret the results?
- How do you interpret the results?
- What are some important limitations of the study? (e.g., what about the study gives you pause or makes you question the findings or interpretation of the findings?)
- Anything else noteworthy about this study?

In addition to submitting your bibliography entries, submit the first page of each article in one pdf file.

3. Topic choice (2 points; Wednesday, 30 January)

After conducting further research (e.g., to get a sense of the viability of each topic option) and reflecting (e.g., is this still an interesting topic to you?), choose one of your two topic options to focus on for the remainder of the term. Provide a one-paragraph justification for your final topic choice.

4. Summary research evidence (12 points; Monday, 11 February)

Find and critically analyze evidence (see #2) from *at least* nine additional articles directly relevant to your topic choice. These articles must be modern, primary source, peer-reviewed research articles, and should reflect a representative sample of what is available in the literature (i.e., if there is evidence both for and against, include articles representing both views and critically evaluate). Your summary will take the form of a specialized annotated bibliography with *at least* ten entries (include your first evidence article in your summary document). In addition to submitting your bibliography, submit the first page of each referenced article combined into one pdf file.

5. Lightning talk (12 points; Wednesday, 27 February/Friday, 01 March/Monday, 04 March)

Prepare a 5-minute presentation defining your topic and summarizing and synthesizing your evidence base, and provide critical analysis leading to a conclusion about the impact of your topic choice on student learning and achievement. Be sure to practice your talk before you present in class, as you will be strictly limited to 5 minutes. You will be randomly assigned to present on one of the three days of our mini-conference. *Your final presentation is due by 5:00 PM the evening before the day of your presentation*. Submit your presentation through the Canvas Assignment with file name [first name_last name_talk.pptx]. I will compile all of the presentations for the day in one place for efficient transitions during our mini-conference.

6. Final paper (16 points; Wednesday, 06 March)

Your final paper describing your topic, summarizing and synthesizing your evidence base, and providing critical analysis will take the form of brief white paper for K-12 teachers, administrators, and policy-makers. Given the evidence that you have

presented and carefully reviewed and synthesized, what is your determination about whether your topic choice has a meaningful impact on student learning and achievement? Based on your evidence, argue persuasively why it is worthwhile (or not) to implement in K-12 schools or classrooms, being careful to note any caveats or limitations.

Quizzes

There will be unannounced quizzes on random class days throughout the term. These will be brief (< 5-minute) assessments, usually at the beginning and/or end of class, based on the materials for the day.

Exams

There will be two midterm exams (8 points and 10 points) and one final exam (14 points). Each will be cumulative, and will address information from both class and the assigned readings. Each may involve multiple-choice, fill-in-the-blank, and/or short-answer questions.

Canvas (https://canvas.dartmouth.edu)

Class resources can be found on the Canvas site for the course, including a copy of this syllabus and course reading links. You will submit assignments through the Assignments function.

Course Grade

Course grades are based on class participation (8%); grades on quizzes (10%); grades on the project components (summing to 50%); and grades on the first midterm exam (8%), the second midterm exam (10%), and the final exam (14%).

Schedule[§]

Date	Topic	What to Read[†]	What's Due
Week One			
F 04 January	Introduction	Syllabus, Canvas site, Wing Institute	
Week Two			
M 07 January	Evidence-based education	Davies, Bridgeland, USDOE, Sousa	
W 09 January	Evidence-based education	APA, Brookman-Byrne, Slavin (3), Kamenetz, VL	
F 11 January	Evidence-based education	Seals, Gastel, APA, Leo	
Week Three			
M 14 January	Class size	EEF, Ehrenberg, Mathis, CCSSO, Blatchford	Topic options
W 16 January	Ability grouping & tracking	EEF, Haskell, Kohli, Burris, Loveless, Olszewski-Kubilius	
F 18 January	Start times	ASWG, Edwards, Shapiro, Wahlstrom	
Week Four			
M 21 January	*Martin Luther King, Jr. Day*	*[no classes]*	First evidence
*T 22 January	Suspensions	CSH, Massar, Steinberg, Washburn, Okonofua	
W 23 January	Summer school	EEF, Quinn, Miller, Pitcock, Kuhfeld	
F 25 January	Career academies	ACTE, Stern, Anderson, IES, Jason	
Week Five			
M 28 January	Midterm Exam One	*[no assigned reading]*	
W 30 January	Direct instruction	Carnine, Clark, Hughes, Peterson, Pondiscio, Schneider	Topic choice
F 01 February	Collaborative learning	EEF, Chen, Vega, Johnson, Cain, Godsey	
Week Six			
M 04 February	Flipped classroom	Fritz, Fulton, Goodwin, DeLozier, Noonoo	
*T 05 February	Midterm One returned	Addison	
W 06 February	Research project updates	*[no assigned reading]*	
F 08 February	Competency-based learning	Guskey, CW, Spencer, Riccards, Robbins	
Week Seven			
M 11 February	Problem- and project-based	David, Bell, Diallo, Dole, Duke, Larmer	Summary evidence
W 13 February	Personalized learning	Walker, Bulger, Riley, Pane, Pulham	
F 15 February	Midterm Exam Two	*[no assigned reading]*	
Week Eight			
M 18 February	Teacher education	Cochran-Smith, Hanford, Economist, Jang, AACTE, Walsh	
W 20 February	Alternative programs: TFA	Albina, IES, Loewus, TFA, Schneider, Higgins, Sondel	
F 22 February	Professional learning	Pierce, Loveless, Desimone, Hanford, Teitel, Darling-Hammond	
Week Nine			
M 25 February	21st century teaching	Rich, P21, Rotherham, Kereluik, Godsey, Marcus	
*T 26 February	Midterm Two returned	*[no assigned reading]*	
W 27 February	Data blitz mini-conference	*[no assigned reading]*	Lightning talk*
F 01 March	Data blitz mini-conference	*[no assigned reading]*	Lightning talk*
Week Ten			
M 04 March	Data blitz mini-conference	*[no assigned reading]*	Lightning talk*
W 06 March	Conclusion	Weston, Hunter, Kane	Final paper
Final Exams			
09-12 March	Final Exam	Saturday 09 March at 8:00 AM	

[§]note that the Schedule is subject to change [†]see detailed list below *submit by 5:00 PM the evening before

Reading List by Class

Please complete the assigned readings listed below before each class. The readings were carefully chosen to help you establish background knowledge and familiarity with key concepts and issues, a basic foundation upon which class will build each day. Links to the readings are available within this syllabus and on the Canvas site for the course. You may need to copy-and-paste some links into your browser. If a link returns a page of nonsense in your browser window, highlight (double-click on) the address in your browser and hit return. If a link should fail, use Google or search the Dartmouth Library to locate the reading.

*Week One*_____

Friday, 04 January – Introduction to the Course
An overview of the course content, structure, and requirements and an introduction to the course.

- Syllabus
- Canvas site for the course
- Wing Institute (2018). Evidence based education [Blog post]. Retrieved from https://www.winginstitute.org/evidence-based-education-overview

*Week Two*_____

Evidence-based Education: The Basics

Monday, 07 January – Evidence-based Education (part 1)
An introduction to the concept of evidence-based education. Current federal education law (the Every Student Succeeds Act, ESSA) emphasizes the use of evidence-based practices in public K-12 education, but the discussion about using evidence in education is decades old. What are the pros and cons? What are the alternatives? What are the challenges and benefits?

- Davies, P. (1999). What is evidence-based education? *British Journal of Educational Studies, 47*(2), 108-121. doi:10.1111/1467-8527.00106
- Bridgeland, J., & Orszag, P. (2016, 21 January). Why the new education law is a game-changer [Blog post]. Retrieved from http://www.governing.com/gov-institute/voices/col-every-student-succeeds-act-evidence-what-works-education.html
- US Department of Education. (2016, 16 September). *Non-regulatory guidance: using evidence to strengthen education investments*. Washington, DC: Author. Retrieved from https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf
- Sousa, V.D., Driessnack, M., & Mendes, I.A.C. (2007). An overview of research designs relevant to nursing: part 1: quantitative research designs. *Revista Latino-Americana de Enfermagem, 15*(3), 502-507. Retrieved from http://www.scielo.br/pdf/rlae/v15n3/v15n3a22.pdf

Wednesday, 09 January – Evidence-based Education (part 2)
We consider the nature of evidence in evidence-based education. We will discuss types of articles and publications; determining "what works" based on significance, effect size, and other factors; and the What Works Clearinghouse (WWC) and other evidence summaries. We will also spend a bit of time with Hattie's influential work, marked by the publication of the book *Visible Learning* in 2009.

- APA Style Sheet
- Brookman-Byrne, A. (2017, 30 October). Identifying what works in education: the challenge of conducting research trials in school [Blog post]. Retrieved from http://bold.expert/identifying-what-works-in-education/
- Slavin, R. (2017, 09 March). On meta-analysis: eight great tomatoes [Blog post]. Retrieved from https://www.huffingtonpost.com/entry/on-meta-analysis-eight-great-tomatoes_us_58c150cce4b0c3276fb781aa
- Slavin, R. (2018a, 11 January). Swallowing camels [Blog post]. Retrieved from https://robertslavinsblog.wordpress.com/2018/01/11/swallowing-camels/
- Kamenetz, A. (2015, 13 August). 5 big ideas that don't work in education [Blog post]. Retrieved from https://www.npr.org/sections/ed/2015/08/13/430050765/five-big-ideas-that-don-t-work-in-education
- Waack, S. (2015, 27 October). Hattie ranking: 252 influences and effect sizes related to student achievement [Blog post]. Retrieved from https://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/. Also available in table form: https://visible-learning.org/wp-content/uploads/2018/03/250-Influences-Final-Effect-Size-List-2017_VLPLUS.pdf
- Slavin, R. (2018b, 21 June). John Hattie is wrong [Blog post]. Retrieved from https://robertslavinsblog.wordpress.com/2018/06/21/john-hattie-is-wrong/

Friday, 11 January – Evidence-based Education (part 3)

We focus on finding and analyzing the evidence in evidence-based education. Readings address details of the peer review process, which involves critical analysis of a manuscript similar to the careful analysis of a published article by a critical reader (i.e., information that you will use as you critically analyze articles for your project). In class, we will discuss how to find peer-reviewed research articles reliably, and practice critically analyzing a research article.

- Seals, D.R., & Tanaka, H. (2000). Manuscript peer review: a helpful checklist for students and novice referees. *Advances in Physiology Education, 23*(1), 52-58. Retrieved from http://www.physiology.org/doi/pdf/10.1152/advances.2000.23.1.S52
- Gastel, B. (2002). Guide published for peer reviewers of research manuscripts. *Science Editor, 25*(2), 46-48. Retrieved from https://www.councilscienceeditors.org/wp-content/uploads/v25n2p046-048.pdf
- American Psychological Association. (2015, December). *Quick reference guide: PsycINFO on EBSCOhost*. Retrieved from https://www.apa.org/pubs/databases/training/ebsco.pdf
- Leo, J., & Puzio, K. (2016). Flipped instruction in a high school science classroom. *Journal of Science Education and Technology, 25*, 775-781. doi:10.1007/s10956-016-9634-4

*Week Three*_____

School Structures

Monday, 14 January – Class Size

Today, we begin our exploration of structural design aspects of the school by looking at class size. Is class size related to student achievement in any systematic way? Do K-12 students in smaller (or

larger) classes learn more or better? The research evidence suggests a complicated story, despite a strong class-size reduction (CSR) movement.
Due: Topic options

- Education Endowment Foundation. (2017, 10 November). Reducing class size [Blog post]. Retrieved from https://educationendowmentfoundation.org.uk/pdf/generate/?u=https://educationendowmentfoundation.org.uk/pdf/toolkit/?id=144&t=Teaching%20and%20Learning%20Toolkit&e=144&s
- Ehrenberg, R.G., Brewer, D.J., Gamoran, A., & Willms, J.D. (2001). Does class size matter? *Scientific American, 285*(5), 78-85. doi:10.1038/scientificamerican1101-78
- Mathis, W.J. (2016, June). *The effectiveness of class size reduction*. Boulder, CO: National Education Policy Center. Retrieved from http://nepc.colorado.edu/files/publications/Mathis%20RBOPM-9%20Class%20Size.pdf
- Council of Chief State School Officers. (2012, Spring). *Chief's pocket guide to class size*. Washington, DC: Author. Retrieved from https://files.eric.ed.gov/fulltext/ED542757.pdf
- Blatchford, P. (2015, 13 February). The class sizes debate is tired and asks the wrong questions [Blog post]. Retrieved from https://www.theguardian.com/commentisfree/2015/feb/13/class-size-debate-asks-wrong-question-simplistic

Wednesday, 16 January – Ability Grouping & Tracking
Ability grouping and tracking, both ways of dividing students into smaller instructional groups, are common practices in US public schools (e.g., were you in the bluebirds reading group in first grade? were you on the honors or AP or college prep track in high school?). Today, we consider whether the research evidence supports the use of these practices to improve the achievement of all students.

- Education Endowment Foundation. (2017, 10 November). Setting or streaming [Blog post]. Retrieved from https://educationendowmentfoundation.org.uk/pdf/generate/?u=https://educationendowmentfoundation.org.uk/pdf/toolkit/?id=127&t=Teaching%20and%20Learning%20Toolkit&e=127&s=
- Haskell, J. (2002, 16 April). Tracking [Audio podcast]. Retrieved from http://www.wnyc.org/story/89539-tracking/ (~ 9 min)
- Kohli, S. (2014, 18 November). Modern-day segregation in public schools [Blog post]. Retrieved from https://www.theatlantic.com/education/archive/2014/11/modern-day-segregation-in-public-schools/382846/
- Burris, C.C., & Welner, K.G. (2005, April). Closing the achievement gap by detracking. *Phi Delta Kappan, 86*(8), 594-598. doi: 10.1177/003172170508600808
- Loveless, T. (2013, March). The resurgence of ability grouping and the persistence of tracking. In *The 2013 Brown Center report on American education: How well are American students learning?* (Vol. 3, No. 2, pp. 13-20). Washington, DC: Brown Center on Education Policy at Brookings. Retrieved from https://www.brookings.edu/wp-content/uploads/2016/06/2013-brown-center-report-web-3.pdf
- Olszewski-Kubilius, P. (2013, 20 May). Setting the record straight on ability grouping [Blog post]. Retrieved from https://www.edweek.org/tm/articles/2013/05/20/fp_olszewski.html

Friday, 18 January – Start Times
The basic school start time argument is that, given what is known about the biology of sleep in adolescents (i.e., research evidence), start times should be shifted later for middle and high schools

in order to improve student learning. The scientific evidence is abundant and clear. But what happens when the research evidence meets the practicalities of the real world?

- Adolescent Sleep Working Group, Committee on Adolescence, and Council on School Health. (2014). School start times for adolescents. *Pediatrics, 134,* 642-649. doi:10.1542/peds.2014-1697
- Edwards, F. (2012, Summer). Do schools begin too early? [Blog post]. Retrieved from http://educationnext.org/files/ednext_20123_Finnley.pdf
- Shapiro, T.M. (2015). The educational effects of school start times [Blog post]. Retrieved from https://wol.iza.org/uploads/articles/181/pdfs/educational-effects-of-school-start-times.pdf?v=1
- Wahlstrom, K.L. (2016/2017). Later start time for teens improves grades, mood, and safety. *Phi Delta Kappan, 98*(4), 8-14. doi:10.1177/0031721716681770

*Week Four*_____

Monday, 21 January – Martin Luther King, Jr. Day *[no classes]*
Due: First evidence

***Tuesday, 22 January – Suspensions**
As might be expected, evidence shows that there are negative consequences to suspensions – academic and otherwise. Are there viable, evidence-based alternatives to using exclusionary practices to respond to unacceptable behaviors in schools?

- Council on School Health. (2013). Out-of-school suspension and expulsion. *Pediatrics, 131*(3), e1000-e1007. doi:10.1542/peds.2012-3932
- Massar, M.M., McIntosh, K., & Eliason, B.M. (2015, May). *Do out-of-school suspensions prevent future exclusionary discipline?* Washington, DC: Technical Assistance Center on Positive Behavioral Interventions and Supports, US Department of Education. Retrieved from https://www.pbis.org/Common/Cms/files/pbisresources/EvalBrief_May2015.pdf
- Steinberg, M.P., & Lacoe, J. (2017, Winter). What do we know about school discipline reform? Assessing the alternatives to suspensions and expulsions. *Education Next, 17*(1), 44-52. Retrieved from http://educationnext.org/files/ednext_xvii_1_steinberg.pdf
- Washburn, D. (2018, 13 May). The rise of restorative justice in California schools brings promise, controversy [Blog post]. Retrieved from https://edsource.org/2018/the-rise-of-restorative-justice-in-california-schools-brings-promise-controversy/597393 (article and video, 6:21 min)
- Okonofua, J.A., Paunesku, D., & Walton, G.M. (2016). Brief intervention to encourage empathic discipline cuts suspension rates in half among adolescents. *Proceedings of the National Academy of Sciences, 113*(19), 5221-5226. doi:10.1073/pnas.1523698113

Wednesday, 23 January – Summer School
Does attending summer school improve learning and achievement for all students? What is at stake? Much of the current discussion about the effects of summer school concerns "summer slide."

- Education Endowment Foundation. (2017, 10 November). Summer schools [Blog post]. Retrieved from https://educationendowmentfoundation.org.uk/pdf/generate/?u=https://educationendowmentfoundation.org.uk/pdf/toolkit/?id=148&t=Teaching%20and%20Learning%20Toolkit&e=148&s

- Quinn, D.M., & Polikoff, M. (2017, 14 September). *Summer learning loss: what is it, and what can we do about it?* Washington, DC: The Brookings Institution. Retrieved from https://www.brookings.edu/research/summer-learning-loss-what-is-it-and-what-can-we-do-about-it/
- Miller, B.M. (2007, June). *The learning season: the untapped power of summer to advance student achievement* (executive summary). Quincy, MA: Nellie Mae Education Foundation. Retrieved from https://www.nmefoundation.org/getmedia/17ce8652-b952-4706-851b-bf8458cec62e/Learning-Season-ES?ext=.pdf
- Pitcock, S. (2018, Spring). The case for summer learning. *American Educator, 42*(1), 4-8. Retrieved from https://www.aft.org/sites/default/files/ae_spring2018_pitcock.pdf
- Kuhfeld, M. (2018, 16 July). Summer learning loss: what we know and what we're learning [Blog post]. Retrieved from https://www.nwea.org/blog/2018/summer-learning-loss-what-we-know-what-were-learning/

Friday, 25 January – Career Academies

Career academies, based on a "school-within-a-school" concept developed decades ago, are one example of an approach to career and technical education (CTE). Is there evidence to support career academies as a way to enhance learning and achievement? What are the pros and cons?

- Association for Career and Technical Education. (2009, March). *The role of career academies in education improvement*. Alexandria, VA: Author. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwjAiJm8zNDYAhWFc98KHYiwBbYQFggxMAE&url=https%3A%2F%2Fwww.acteonline.org%2FWorkArea%2FDownloadAsset.aspx%3Fid%3D2112&usg=AOvVaw1mhsjsH3yST4v_KaFpwBh_
- Stern, L. (2014, 10 September). Career academies: a new twist on vocational ed [Blog post]. Retrieved from http://www.americanradioworks.org/segments/career-academies/
- Anderson, M.D. (2016, 19 April). How effective are 'career academies'? [Blog post] Retrieved from https://www.theatlantic.com/education/archive/2016/04/do-career-academies-work/478863/
- Institute of Education Sciences. (2015, September). *WWC intervention report: career academies*. Washington, DC: U.S. Department of Education. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_careeracademies_092215.pdf
- Jason, Z. (2017, Winter). Bored out of their minds. *Ed. Harvard Ed. Magazine.* Retrieved from https://www.gse.harvard.edu/news/ed/17/01/bored-out-their-minds

*Week Five*_____

Monday, 28 January – Midterm Exam One

Classroom Structures

Wednesday, 30 January – Direct or Explicit Instruction

Today, we begin our exploration of approaches to teaching and learning within the classroom, starting with direct, or explicit, instruction. "Direct instruction" comes in many forms, but is essentially explicit, structured, instructor-guided teaching. From the launch of Direct Instruction in Project Follow Through in the late 1960s to debates about scripted lesson use in charter schools today, direct instruction is a controversial topic. We consider some of the arguments and evidence for and against.

Due: Topic choice

- Carnine, D.W., Silbert, J., & Kame'enui, E.J. (2013, 29 July). What is direct instruction? [Blog post]. Retrieved from https://www.education.com/reference/article/what-direct-instruction/. Excerpted from D.W. Carnine, J. Silbert, E.J. Kame'enui, & S.G. Tarver (Eds.). (2004). *Direct instruction reading* (p. 11). Upper Saddle River, NJ: Pearson Education.
- Clark, R.E., Kirschner, P.A., & Sweller, J. (2012, Spring). Putting students on the path to learning: the case for fully guided instruction. *American Educator, 36*(1), 6-11. Retrieved from https://www.aft.org/sites/default/files/periodicals/Clark.pdf
- Hughes, C.A, Morris, J.R., Therrien, W.J., & Benson, S.K. (2017). Explicit instruction: historical and contemporary contexts. *Learning Disabilities Research & Practice, 32*(3), 140-148. doi:10.1111/ldrp.12142
- Peterson, P.E. (2011, Summer). Eighth-grade students learn more through direct instruction. *Education Next, 11*(3), 7. Retrieved from http://educationnext.org/files/ednext_20113_fromeditors.pdf
- Pondiscio, R. (2018, 08 February). Meta-analysis confirms effectiveness of an old school approach: Direct Instruction [Blog post]. Retrieved from https://www.educationnext.org/meta-analysis-confirms-effectiveness-old-school-approach-direct-instruction/#
- Schneider, J. (2014, 30 April). The drawbacks of direct instruction [Blog post]. Retrieved from http://blogs.seattletimes.com/educationlab/2014/04/30/guest-the-drawbacks-of-direct-instruction/

Friday, 01 February – Collaborative and Cooperative Learning

Collaborative and cooperative learning come in many different forms, but essentially involve students working together in order to learn. Decades of research suggest that collaboration is a powerful learning tool when used carefully, and some research-based guidelines have been established. However, whether all students benefit remains controversial.

- Education Endowment Foundation. (2017, 10 November). Collaborative learning [Blog post]. Retrieved from https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/collaborative-learning/
- Chen, G. (2012, 15 October). Cooperative learning [Blog post]. Retrieved from https://www.publicschoolreview.com/blog/cooperative-learning
- Vega, V., & Terada, Y. (2012, 5 December). Research supports collaborative learning [Blog post]. Retrieved from https://www.edutopia.org/stw-collaborative-learning-research
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*Week Six*_____

Monday, 04 February – Flipped Classroom

The flipped classroom is considered an example of "blended learning" because it relies on both via-technology and in-person instruction. For our purposes, it offers an example of a different blend: of direct instruction and collaborative/cooperative learning. Despite the popularity of the phrase and the proliferation of anecdotal claims, there has been little quality research conducted regarding the utility of the flipped classroom model in K-12 education.

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- Fulton, K.P. (2012, October). 10 reasons to flip. *Phi Delta Kappan, 94*(2), 20-24. doi:10.1177/003172171209400205
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- Noonoo, S. (2017, 03 October). Why flipped learning is still going strong 10 years later [Blog post]. Retrieved from https://www.edsurge.com/news/2017-10-03-why-flipped-learning-is-still-going-strong-10-years-later

***Tuesday, 05 February – Midterm One returned**

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Wednesday, 06 February – Research Project Updates

Progress reports and discussions about research projects.

Friday, 08 February – Competency-based Learning

Today, we begin our look at four in-classroom approaches (not necessarily mutually exclusive) that focus on different levels of analysis for learning and teaching: competencies, problems and projects, and people. Some states, like New Hampshire, have shifted to a competency-based (also known as mastery-based, performance-based, or proficiency-based) education model in their K-12 public schools. What does this mean? What is the evidence to support such a shift?

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- CompetencyWorks. (2014, November). Understanding competency education in K-12: what is competency education? Retrieved from https://www.competencyworks.org/wp-content/uploads/2014/11/CWorks-Understanding-Competency-Education.pdf
- Spencer, K. (2017, 11 August). A new kind of classroom: no grades, no failing, no hurry. *The New York Times.* Retrieved from https://search.proquest.com/docview/1927745695?accountid=10422
- Riccards, P. (2017, 26 June). Beyond growth and proficiency lies mastery: DeVos and the crowning of competence as king [Blog post]. Retrieved from https://www.the74million.org/article/riccards-beyond-growth-and-proficiency-lies-mastery-devos-and-the-crowning-of-competence-as-king/
- Robbins, J. (2017, 04 May). Why 'competency-based education' will deepen America's education crisis [Blog post]. Retrieved from http://thefederalist.com/2017/05/04/competency-based-education-will-deepen-americas-education-crisis/

Week Seven

Monday, 11 February – Problem- and Project-based Learning

Today, we consider what problem-based and project-based learning (PBL) are and what the research evidence shows about PBL and achievement in K-12 classrooms.

Due: Summary evidence

- David, J.L. (2008, February). Project-based learning. *Educational Leadership, 65*(5), 80-82. Retrieved from http://search.ebscohost.com.dartmouth.idm.oclc.org/login.aspx?direct=true&AuthType=ip,url,uid&db=a9h&AN=31501220&site=ehost-live&scope=site
- Bell, S. (2010). Project-based learning for the 21st century: skills for the future. *The Clearing House, 83,* 39-43. doi:10.1080/00098650903505415
- Diallo, A. (2018, 14 May). Project-based learning and standardized tests don't mix [Blog post]. Retrieved from https://hechingerreport.org/project-based-learning-and-standardized-tests-dont-mix/
- Dole, S., Bloom, L., & Doss, K.K. (2017). Engaged learning: impact of PBL and PjBL with elementary and middle grade students. *Interdisciplinary Journal of Problem-Based Learning, 11*(2), 1-10. doi:10.7771/1541-5015.1685
- Duke, N.K., & Halvorsen, A.-L. (2017, 20 June). New study shows the impact of PBL on student achievement [Blog post]. Retrieved from https://www.edutopia.org/article/new-study-shows-impact-pbl-student-achievement-nell-duke-anne-lise-halvorsen
- Larmer, J., Mergendoller, J., & Boss, S. (2015). *Gold standard PBL: essential project design elements*. Novato, CA: Buck Institute for Education. Adapted from: Larmer, J., Mergendoller, J., & Boss, S. (2015). *Setting the standard for project based learning: a proven approach to rigorous classroom instruction*. Alexandria, VA: ASCD. Retrieved from http://www.bie.org/object/document/gold_standard_pbl_essential_project_design_elements

Wednesday, 13 February – Personalized Learning

With the proliferation of technological options, proponents claim that personalized learning – instruction specially tailored to each individual student, although a precise definition is lacking – is now possible in K-12 public school classrooms. Today, we consider what personalized learning looks like in the classroom, current discussions about this approach, and potential pros and cons.

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- Bulger, M. (2016, 22 July). *Personalized learning: the conversations we're not having*. New York, NY: Data & Society Research Institute. Retrieved from https://datasociety.net/pubs/ecl/PersonalizedLearning_primer_2016.pdf
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- Pane, J.F., Steiner, E.D., Baird, M.D., Hamilton, L.S., & Pane, J.D. (2017, July). *How does personalized learning affect student achievement?* Retrieved from https://www.rand.org/pubs/research_briefs/RB9994.html
- Pulham, E., & Mohammed, S. (2018, 29 January). Publish or (the field will) perish: blended learning needs more peer-reviewed publications [Blog post]. Retrieved from https://www.brookings.edu/blog/brown-center-chalkboard/2018/01/29/publish-or-the-field-will-perish-blended-learning-needs-more-peer-reviewed-publications/

Friday, 15 February – Midterm Exam Two

*Week Eight*_____

Educating Teachers

Monday, 18 February – Teacher Education Programs (TEPs)

Today, we begin our brief exploration of the role of teachers' learning in education. In an era of accountability, teacher preparation has become an increasingly controversial topic. How are teachers prepared and trained? What does the research evidence show: Does – or how does – teacher training matter? What are the best ways to train high-quality teachers who competently support student growth, learning, and achievement?

- Cochran-Smith, M. (2006, March). Ten promising trends (and three big worries). *Educational Leadership, 63*(6), 20-25. Retrieved from http://search.ebscohost.com.dartmouth.idm.oclc.org/login.aspx?direct=true&AuthType=ip,url,uid&db=a9h&AN=20034798&site=ehost-live&scope=site
- Hanford, E. (2015, 27 August). Rethinking teacher preparation [Blog post]. Retrieved from http://www.americanradioworks.org/segments/rethinking-teacher-preparation/
- (2016, 11 June). Teaching the teachers [Blog post]. Retrieved from https://www.economist.com/news/briefing/21700385-great-teaching-has-long-been-seen-innate-skill-reformers-are-showing-best
- Jang, S.T., & Horn, A.S. (2017, March). *The relative effectiveness of traditional and alternative teacher preparation programs: a review of recent research*. Minneapolis, MN: Midwestern Higher Education Compact. Retrieved from http://www.mhec.org/sites/mhec.org/files/teacherprep2_20170301.pdf
- American Association of Colleges for Teacher Education. (2017). About EdTPA: overview. Retrieved from http://edtpa.aacte.org/about-edtpa#Overview-0

- Walsh, K. (2016, 19 January). Are textbooks behind teachers' steep learning curve in the classroom? [Blog post]. Retrieved from https://www.brookings.edu/blog/brown-center-chalkboard/2016/01/19/are-textbooks-behind-teachers-steep-learning-curve-in-the-classroom/

Wednesday, 20 February – Alternative Teacher Preparation Programs: Teach for America (TFA)

Continuing our discussion about teacher education, today we focus on TFA as an alternative program. Does research evidence indicate that TFA is effective (or as effective as traditional TEPs) in training teachers who competently support student growth, learning, and achievement? Is that the primary goal of TFA? Controversy surrounds this high-profile program; we will consider some of the key issues raised in the debates.

- Albina, G. (2012, May). Which is better: alternative or traditional? *Educational Leadership, 69*(8), 70-72. Retrieved from http://search.ebscohost.com.dartmouth.idm.oclc.org/login.aspx?direct=true&AuthType=ip,url,uid&db=a9h&AN=74999569&site=ehost-live&scope=site
- Institute of Education Sciences. (2016, August). *WWC intervention report: Teach for America*. Washington, DC: US Department of Education. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_tfa_083116.pdf
- Loewus, L. (2017, 28 November). TFA, alternative programs marginally better than traditional teacher prep, study finds [Blog post]. Retrieved from http://blogs.edweek.org/edweek/teacherbeat/2017/11/tfa_alternative_programs_marginally_better_than_traditional_prep_study.html
- Teach for America. (n.d.). What the research says [Blog post]. Retrieved from https://www.teachforamerica.org/sites/default/files/what-the-research-says.pdf
- Schneider, J. (2013, 15 August). Teach for America's 'dirty little secret' [Blog post]. Retrieved from https://www.washingtonpost.com/news/answer-sheet/wp/2013/08/15/teach-for-americas-dirty-little-secret/?utm_term=.c9e65b48c4f8
- Higgins, M., Hess, F.M., Weiner, J., & Robison, W. (2011). Creating a corps of change agents [Blog post]. Retrieved from http://educationnext.org/files/ednext_20113_feature_higgins.pdf
- Sondel, B., & Boselovic, J.L. (2014). "No excuses" in New Orleans [Blog post]. Retrieved from https://www.jacobinmag.com/2014/07/no-excuses-in-new-orleans/

Friday, 22 February – Professional Development/Professional Learning

Professional development (PD) or professional learning (PL) is essentially continued education for practicing teachers. It may be one way of increasing implementation of evidence-based practices in education, but the evidence for the effectiveness of PD/PL itself is not strong. Today, we will learn about recent changes in federal law related to PD/PL, consider what research shows about what factors are associated with PD/PL effectiveness, and spend some time with some examples: professional learning communities (PLCs), coaching, lesson study, and instructional rounds.

- Pierce, D. (2016, 24 May). ESSA redefines professional development for teachers. Are you ready for this shift? [Blog post]. Retrieved from http://schoolimprovement.com/essa-professional-development-for-teachers/
- Loveless, T. (2014). *What do we know about professional development?* Retrieved from https://www.brookings.edu/research/what-do-we-know-about-professional-development/
- Desimone, L.M., & Pak, K. (2017). Instructional coaching as high-quality professional development. *Theory into Practice, 56*(1), 3-12. doi:10.1080/00405841.2016.1241947

- Hanford, E. (2015, 27 August). A different approach to teacher learning: lesson study [Blog post]. Retrieved from http://www.americanradioworks.org/segments/a-different-approach-to-teacher-learning-lesson-study/
- Teitel, L. (2009, May/June). Improving teaching and learning through instructional rounds. *Harvard Education Letter, 25*(3), 1-3. Retrieved from http://education.ucdavis.edu/sites/main/files/file-attachments/improving_teaching_and_learning_through_instructional_rounds_teitel_hel_2009.pdf
- Darling-Hammond, L., Hyler, M.E., & Gardner, M. (2017, June). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf. Please read the Executive Summary (pp. v-vii) and Introduction (pp. 1-3).

Week Nine

Monday, 25 February – 21st Century Teaching and Learning

In the US, the Partnership for 21st Century Skills (P21) has shaped discussion around the "new" 4 Cs (critical thinking, communication, collaboration, and creativity), skills thought to be crucial to college and career readiness in this century. But an evidence basis has been difficult to establish, in part because these sorts of claims tend to be ill-formed for research.

- Rich, E. (2010). How do you define 21st-century learning? One question. Eleven answers. *EdWeek, 4*(1), 32-35. Retrieved from https://www.edweek.org/tsb/articles/2010/10/12/01panel.h04.html?print=1
- Partnership for 21st Century Learning. (2016, January). *Framework for 21st century learning*. Washington, DC: Author. Retrieved from http://www.p21.org/storage/documents/docs/P21_framework_0816.pdf
- Rotherham, A.J., & Willingham, D.T. (2010, Spring). "21st-century" skills: not new, but a worthy challenge. *American Educator, 34*(1), 17-20. Retrieved from https://www.aft.org/sites/default/files/periodicals/RotherhamWillingham.pdf
- Kereluik, K., Mishra, P., Fahnoe, C., & Terry, L. (2013). What knowledge is of most worth: teacher knowledge for 21st century learning. *Journal of Digital Learning in Teacher Education, 29*(4), 127-140. Retrieved from https://files.eric.ed.gov/fulltext/EJ1010753.pdf
- Godsey, M. (2015, 08 June). Traditional teaching faces a cyberthreat from school model [Op ed]. Retrieved from http://www.latimes.com/opinion/op-ed/la-oe-0608-godsey-altschool-teachers-20150608-story.html
- Marcus, J. (2018, 18 January). Transforming physicists, engineers into teachers at new MIT program [Blog post]. Retrieved from https://www.kqed.org/mindshift/50002/transforming-physicists-engineers-into-teachers-at-new-mit-program

***Tuesday, 26 February – Midterm Two returned**

Your Discoveries

Wednesday, 27 February – Data Blitz Mini-conference
A "data blitz" at a professional conference is a series of lightning (5-minute) talks. Our data blitz mini-conference on evidence-based education and what works – and doesn't – in education begins today. Each student will be randomly assigned to present on one of the three days of our conference.
Due: Lightning talk (by 5:00 PM the evening before)

Friday, 01 March – Data Blitz Mini-conference
Our mini-conference on what works in education continues.
Due: Lightning talk (by 5:00 PM the evening before)

*Week Ten*_____

Monday, 04 March – Data Blitz Mini-conference
Our mini-conference on what works in education concludes today.
Due: Lightning talk (by 5:00 PM the evening before)

Conclusion

Wednesday, 06 March – Conclusion
Wrap-up and reflection.
Due: Final paper

- Weston, D. (2012, 4 November). The many challenges of evidence-based teaching [Blog post]. Retrieved from http://tdtrust.org/the-many-challenges-of-evidence-based-teaching
- Hunter, W.J. (2017). Evidence-based teaching in the 21st century: the missing link. *Canadian Journal of Education, 40*(2), 1-6. Retrieved from http://journals.sfu.ca/cje/index.php/cje-rce/article/view/3106/2406
- Kane, T.J. (2017, Spring). Making evidence locally: rethinking education research under the Every Student Succeeds Act. *Education Next, 17*(2), 52-58. Retrieved from http://educationnext.org/files/ednext_xvii_2_kane.pdf