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| **CCF Bibliography** | **TS** | **Abstract / Summary / Overview / Introduction / Blurb** | **Online Source as provided by the CCF** | | **Alternative Source** | **Hard copy available**  **in LRC** |
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|  | No online source given by the CCF |
| 1. Adesope, O. O., Trevisan, D. A., & Sundararajan, N. (2017) **Rethinking the Use of Tests: A Meta-Analysis of Practice Testing.** Review of Educational Research, 87(3), 659–701. | **TS2** | The testing effect is a well-known concept referring to gains in learning and retention that can occur when students take a practice test on studied material before taking a final test on the same material. Research demonstrates that students who take practice tests often outperform students in nontesting learning conditions such as restudying, practice, filler activities, or no presentation of the material. However, evidence-based meta-analysis is needed to develop a comprehensive understanding of the conditions under which practice tests enhance or inhibit learning. This meta-analysis fills this gap by examining the effects of practice tests versus nontesting learning conditions. Results reveal that practice tests are more beneficial for learning than restudying and all other comparison conditions. Mean effect sizes were moderated by the features of practice tests, participant and study characteristics, outcome constructs, and methodological features of the studies. Findings may guide the use of practice tests to advance student learning, and inform students, teachers, researchers, and policymakers. This article concludes with the theoretical and practical implications of the meta-analysis. |  | Accessible from: <https://doi.org/10.3102/0034654316689306> | **✓**  <https://klingensteincenter.org/docs/default-source/default-document-library/0034654316689306.pdf?sfvrsn=2> |  |
| 1. Agarwal, P. K., Finley, J. R., Rose, N. S., & Roediger, H. L. (2017) **Benefits from retrieval practice are greater for students with lower working memory capacity.** Memory, 25(6), 764–771. | **TS2** | We examined the effects of retrieval practice for students who varied in working memory capacity as a function of the lag between study of material and its initial test, whether or not feedback was given after the test, and the retention interval of the final test. We sought to determine whether a blend of these conditions exists that maximises benefits from retrieval practice for lower and higher working memory capacity students. College students learned general knowledge facts and then restudied the facts or were tested on them (with or without feedback) at lags of 0–9 intervening items. Final cued recall performance was better for tested items than for restudied items after both 10 minutes and 2 days, particularly for longer study–test lags. Furthermore, on the 2-day delayed test the benefits from retrieval practice with feedback were significantly greater for students with lower working memory capacity than for students with higher working memory capacity (r = −.42). Retrieval practice may be an especially effective learning strategy for lower ability students. |  | Accessible from: <https://doi.org/10.1080/09658211.2016.1220579> | **✓**  <http://psychnet.wustl.edu/memory/wp-content/uploads/2018/04/Agarwal-Finley-Rose-Roediger-2017-Mem.pdf> |  |
| 1. Alexander, R. (2017) **Towards Dialogic Teaching: rethinking classroom talk.** York: Dialogos. | **TS4** | The term ‘dialogic teaching’ is now in regular use but like all such terms means different things to different people. As developed by Robin Alexander since the early 2000s, dialogic teaching harnesses the power of talk to engage interest, stimulate thinking, advance understanding, expand ideas, and build and evaluate arguments, empowering students for lifelong learning and democratic engagement. Being collaborative and supportive, it confers social and emotional benefits too. It also helps teachers: by encouraging students to share their thinking it enables teachers to diagnose needs, devise learning tasks, enhance understanding, assess progress, and guide students through the challenges they encounter.  Yet as defined by Alexander – though not by some others in the field – dialogic teaching is both talk and more than talk, for it enacts a distinctively dialogic stance on knowledge, learning, social relations and education itself. |  |  |  |  |
| 1. Allen JP, Pianta RC, Gregory A, Mikami AY, Lun J (2011) **An interaction-based approach to enhancing secondary school instruction and student achievement.** Science 333(6045):1034-1037. | **TS8** | Improving teaching quality is widely recognized as critical to addressing deficiencies in secondary school education, yet the field has struggled to identify rigorously evaluated teacher-development approaches that can produce reliable gains in student achievement. A randomized controlled trial of My Teaching Partner–Secondary—a Web-mediated approach focused on improving teacher-student interactions in the classroom—examined the efficacy of the approach in improving teacher quality and student achievement with 78 secondary school teachers and 2237 students. The intervention produced substantial gains in measured student achievement in the year following its completion, equivalent to moving the average student from the 50th to the 59th percentile in achievement test scores. Gains appeared to be mediated by changes in teacher-student interaction qualities targeted by the intervention. |  | Accessible from: <https://doi.org/10.1126/science.1207998> | **✓**  <https://files.eric.ed.gov/fulltext/ED556046.pdf> |  |
| 1. Allen, B. and Sims, S. (2018) **The Teacher Gap.** Abingdon: Routledge. | **TS2** | Teachers are the most important determinant of the quality of schools. We should be doing everything we can to help them get better.  In recent years, however, a cocktail of box-ticking demands, ceaseless curriculum reform, disruptive reorganisations and an audit culture that requires teachers to document their every move, have left the profession deskilled and demoralised. Instead of rolling out the red carpet for teachers, we have been pulling it from under their feet.  The result is predictable: there is now a cavernous gap between the quantity and quality of teachers we need, and the reality in our schools.  In this book, Rebecca Allen and Sam Sims draw on the latest research from economics, psychology and education to explain where the gap came from and how we can close it again. Including interviews with current and former teachers, as well as end-of-chapter practical guidance for schools, The Teacher Gap sets out how we can better recruit, train and retain the next generation of teachers.  At the heart of the book is a simple message: we need to give teachers a career worth having. |  |  |  | **✓**  371.1 |
| 1. Aronson, J. (Ed.) (2002) **Improving academic achievement: Impact of psychological factors on education.** New York: Academic Press. | **TS1** | Authors discuss research and theory on the social psychological forces that shape academic achievement. A key focus is to show how psychological principles can be used to foster academic achievement and make schooling a more enjoyable process. Topics are relevant to both social and educational psychology, with discussion of core concepts such as intelligence, motivation, self-esteem and self concept, expectations and attributions, prejudice, and interpersonal and intergroup relations. |  |  |  |  |
| 1. Baddeley, A. (2003) **Working memory: looking back and looking forward.** Nature reviews neuroscience, 4(10), 829-839. | **TS2** | The concept of working memory proposes that a dedicated system maintains and stores information in the short term, and that this system underlies human thought processes. Current views of working memory involve a central executive and two storage systems: the phonological loop and the visuospatial sketchpad. Although this basic model was first proposed 30 years ago, it has continued to develop and to stimulate research and debate. The model and the most recent results are reviewed in this article. |  |  | **✓**  <https://labs.wsu.edu/attention-perception-performance/documents/2016/05/baddeley_review_2003.pdf/> |  |
| 1. Bailin, S., Case, R., Coombs, J. R., & Daniels, L. B. (1999) **Common misconceptions of critical thinking.** Journal of Curriculum Studies, 31(3), 269-283. | **TS3** | In this paper, the first of two, we analyse three widely-held conceptions of critical thinking: as one or more skills, as mental processes, and as sets of procedures. Each view is, we contend, wrong-headed, misleading or, at best, unhelpful. Some who write about critical thinking seem to muddle all three views in an unenlightening melange. Apart from the errors or inadequacies of the conceptions themselves, they promote or abet misconceived practices for teaching critical thinking. Together, they have led to the view that critical thinking is best taught by practising it. We offer alternative proposals for the teaching of critical thinking. |  |  | **✓**  <https://momentssnippetsspirals.files.wordpress.com/2013/07/common-misconceptions-on-critical-thinking.pdf> |  |
| 1. Ball, D. L., Thames, M. H., & Phelps, G. (2008) **Content knowledge for teachers: What makes it special?** Journal of Teacher Education, 2008 59: 389 DOI: 10.1177/0022487108324554 | **TS3** | This article reports the authors’ efforts to develop a practice-based theory of content knowledge for teaching built on Shulman’s (1986) notion of pedagogical content knowledge. As the concept of pedagogical content knowledge caught on, it was in need of theoretical development, analytic clarification, and empirical testing. The purpose of the study was to investigate the nature of professionally oriented subject matter knowledge in mathematics by studying actual mathematics teaching and identifying mathematical knowledge for teaching based on analyses of the mathematical problems that arise in teaching. In conjunction, measures of mathematical knowledge for teaching were developed. These lines of research indicate at least two empirically discernable subdomains within pedagogical content knowledge (knowledge of content and students and knowledge of content and teaching) and an important subdomain of “pure” content knowledge unique to the work of teaching, specialized content knowledge, which is distinct from the common content knowledge needed by teachers and nonteachers alike. The article concludes with a discussion of the next steps needed to develop a useful theory of content knowledge for teaching. |  | Accessible from: <https://www.math.ksu.edu/~bennett/onlinehw/qcenter/ballmkt.pdf> | **✓** |  |
| 1. Bandura, A. (1986) **Social foundations of thought and action: a social cognitive theory.** Englewood Cliffs, NJ: Prentice-Hall. | **TS1** | A comprehensive theory of human motivation and action from a social cognitive perspective is presented in this book. It deals with the prominent roles played by cognitive, vicarious, self-reflective, and self-regulatory processes in psychosocial functioning. The book is organized to emphasize the reciprocal causation through the interplay of cognitive, behavioral, and environmental factors. Albert Bandura systematically applies this social cognitive theory to personal and social change. Among its highlights, the book: covers a wide range of issues relating to human thought, motivation, and behavior; provides a theory of social diffusion and innovation that integrates modeling and social-network influences; shows how converging technological changes are transforming the nature and scope of human influence; [and] analyzes the determinants and processes governing personal and social change. Because of its relevance it [the book] will be of interest to readers in many different disciplines including psychology, education, sociology, communications, political science, business, and law. |  |  |  |  |
| 1. Basma, B. & Savage, R. (2018) **Teacher Professional Development and Student Literacy Growth: a Systematic Review and Metaanalysis.** Education Psychology Review. 30: 457. | **TS8** | This systematic review explores the impact of teacher professional development (PD) on student reading achievement. The first part of the literature evaluates all available existing systematic reviews and meta-analyses of PD intervention studies. No quality reviews of PD and reading specifically (distinct from ‘attainment’) were found. There was a little overlap of studies in existing reviews. The second part of the systematic review focuses on the most recent intervention studies exploring PD and student reading achievement. The results of a meta-analysis of all high-quality studies are presented in the third part of the paper. This analysis showed no strong evidence of publication bias and an effect size for PD on student literacy of g = 0.225. This effect was moderated by the number of hours of PD whereby studies with fewer than 30 h of PD was significant for student reading outcomes (g = 0.367, p < 0.001) but more than 30 PD hours was not significant (g = 0.143, p > .05). Following a Weight of Evidence assessment, analysis showed that nearly all high-quality articles involved shorter PD. Weight of Evidence was a significant moderator, (g = 0.408, p < 0.001 for high-quality studies, g = 0.077, p > 0.5, n.s., for medium quality studies). Our review suggests that only high-quality studies of short teacher PD currently provide evidence of impact on student’s reading achievement. |  | Accessible from: <https://doi.org/10.1007/s10648-017-9416-4> | **✓**  <https://discovery.ucl.ac.uk/id/eprint/10041629/1/Savage_article.pdf> |  |
| 1. Bennett, J., Lubben, F., & Hogarth, S. (2006) **Bringing Science to Life: A Synthesis of the Research Evidence on the Effects of Context-Based and STS Approaches to Science Teaching.** Science Education, 91(1), 36–74. | **TS7** | Context-based and science–technology–society (STS) approaches to teaching science in high school have become widely used over the past two decades. They aspire to foster more positive attitudes to science while, at the same time, provide a sound basis of scientific understanding for further study. This paper reviews the detailed research evidence from 17 experimental studies undertaken in eight different countries on the effects of context-based and STS approaches, drawing on the findings of two systematic reviews of the research literature. The review findings indicate that context-based/STS approaches result in improvement in attitudes to science and that the understanding of scientific ideas developed is comparable to that of conventional approaches. The approaches also result in more positive attitudes to science in both girls and boys and reduce the gender differences in attitudes. The paper also considers issues emerging from work in the area in relation to study design and the constraints which may militate against the use of experimental research designs when gathering evidence of impact of interventions. A fundamental constraint is the extent to which it is possible to make comparisons between existing methods and interventions when the aims are overlapping but also differ in significant ways |  | Accessible from: <https://www.york.ac.uk/media/educationalstudies/documents/staff-docs/Bennett%20Lubben%20Hogarth%202007.pdf> | **✓** |  |
| 1. Biesta, G. (2009) **Good education in an age of measurement: on the need to reconnect with the question of purpose in education.** Educational Assessment, Evaluation and Accountability, 21(1). | **TS3** | In this paper I argue that there is a need to reconnect with the question of purpose in education, particularly in the light of a recent tendency to focus discussions about education almost exclusively on the measurement and comparison of educational outcomes. I first discuss why the question of purpose should always have a place in our educational discussion. I then explore some reasons why this question seems to have disappeared from the educational agenda. The central part of the paper is a proposal for addressing the question of purpose in education—the question as to what constitutes good education—in a systematic manner. I argue that the question of purpose is a composite question and that in deliberating about the purpose of education we should make a distinction between three functions of education to which I refer as qualification, socialisation and subjectification. In the final section of the paper I provide examples of how this proposal can help in asking more precise questions about the purpose and direction of educational processes and practices. |  |  | **✓**  <https://www.researchgate.net/publication/41529875_Good_Education_in_an_Age_of_Measurement_On_the_Need_to_Reconnect_with_the_Question_of_Purpose_in_Education> |  |
| 1. Black, P., & Wiliam, D. (2009) **Developing the theory of formative assessment.** Educational Assessment, Evaluation and Accountability, 21(1), pp.5-31. | **TS2**  **TS6** | Whilst many definitions of formative assessment have been offered, there is no clear rationale to define and delimit it within broader theories of pedagogy. This paper aims to offer such a rationale, within a framework which can also unify the diverse set of practices which have been described as formative. The analysis is used to relate formative assessment both to other pedagogic initiatives, notably cognitive acceleration and dynamic assessment, and to some of the existing literature on models of self-regulated learning and on classroom discourse. This framework should indicate potentially fruitful lines for further enquiry, whilst at the same time opening up new ways of helping teachers to implement formative practices more effectively. |  |  | **✓**  <https://kclpure.kcl.ac.uk/portal/files/9119063/Black2009_Developing_the_theory_of_formative_assessment.pdf> |  |
| 1. Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004)   **\*Working inside the Black Box: Assessment for Learning in the Classroom**.  Phi Delta Kappan, 86(1), 8–21. | **TS6** | In their widely read article "Inside the Black Box," the authors demonstrated that improving formative assessment raises student achievement. Now in this article, they and their colleagues report on a follow-up project that has helped teachers change their practice and students change their behavior so that everyone shares responsibility for the students' learning. |  | Accessible from: <https://eric.ed.gov/?id=EJ705962> | **✓**  <https://www.researchgate.net/profile/Dylan_Wiliam/publication/44835745_Working_Inside_the_Black_Box_Assessment_for_Learning_in_the_Classroom/links/0c9605262f88548687000000/Working-Inside-the-Black-Box-Assessment-for-Learning-in-the-Classroom.pdf> |  |
| 1. Blatchford, P., Bassett, P., Brown, P., Martin, C., Russell, A., & Webster, R. (2009) **Deployment and impact of support staff in schools: Characteristics, Working Conditions and Job Satisfaction of Support Staff in Schools.** | **TS8** | In the past few years there has been a huge growth in the range and number of support staff in schools but previous research provides only limited information on the deployment and impact of support staff in schools. The DISS project comprises two Strands. Strand 1 is providing comprehensive and reliable information on support staff in schools in England and Wales over a key five year period (2003-8). It involves three biennial questionnaire surveys, and results are described in earlier reports. This report provides results from Strand 2 Wave 1 (with some additional material from Strand 1 Wave 1) and describes findings on: 1. The deployment of all categories of support staff in terms of a description of activities across the whole school day (a ‘macro’ level description based on ‘timelogs’ completed by support staff), and a description of the deployment of classroom based support staff (a ‘micro’ level description based on systematic observations of pupils and support staff). 2. The impact of support staff on: a. Teachers and teaching: in terms of teaching, teacher job satisfaction, stress and workloads (from teacher views); and teacher and support staff interactions with pupils (from systematic observations of individual attention, classroom control, amount of teaching and amount of interaction with teachers); b. Pupil learning and behaviour: in terms of pupil engagement in class and active classroom behaviour and interactions with teachers (from systematic observations); pupil positive approaches to learning in terms of confidence, motivation and ability to work independently and complete assigned work (from teacher ratings); and pupil learning and behaviour (teacher views); 3. The impact of the National Agreement (NA) on pupils, teachers and support staff (based on case studies and headteacher views). |  | Retrieved from <http://eprints.uwe.ac.uk/12342/> | **✓** |  |
| 1. Campbell Collaboration (2018) **School-based interventions for reducing disciplinary school exclusion: A Systematic Review.** | **TS1** | Interventions to reduce school exclusion are intended to mitigate the adverse effects of this school sanction. Some approaches, namely those involving enhancement of academic skills, counselling, mentoring/monitoring and those targeting skills training for teachers, have a temporary effect in reducing exclusion. More evaluations are needed to identify the most effective types of intervention; and whether similar effects are also found in different countries. |  | Accessible from: <https://campbellcollaboration.org/library/reducing-school-exclusion-school-based-interventions.html>. | **✓** |  |
| 1. Carroll, J., Bradley, L., Crawford, H., Hannant, P., Johnson, H., & Thompson, A. (2017)   **\*SEN support: A rapid evidence assessment.** | **TS7**  **TS8** | Children and young people on SEN support have been identified with special educational needs (SEN) and require different or additional support to meet these needs, but do not have a statement of SEN or an Education, Health and Care plan (EHCP). It can be difficult for education professionals to know how best to support these individuals. However, in recent years there has been a dramatic change in the quality, quantity and availability of research evidence to support teaching, and this report aims to summarise recent research that addresses the issue of what practice is effective for children and young people on SEN support in mainstream schools and colleges. All practice described in this report reflects the research identified and reviewed through the rapid evidence assessment, and does not represent an endorsement by DfE or a reflection of Government policy. |  | Accessible from: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628630/DfE_SEN_Support_REA_Report.pdf> | **✓** |  |
| 1. Chapman, R. L., Buckley, L., & Sheehan, M. (2013) **School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review.** 25(1), 95–114. | **TS1**  **TS7** | School connectedness has a significant impact on adolescent outcomes, including reducing risk-taking behavior. This paper critically examines the literature on school-based programs targeting increased connectedness for reductions in risk taking. Fourteen articles describing seven different school-based programs were reviewed. Programs drew on a range of theories to increase school connectedness, and evaluations conducted for the majority of programs demonstrated positive changes in school connectedness, risk behavior, or a combination of the two. Many of the reviewed programs involved widespread school system change, however, which is frequently a complex and time-consuming task. Future research is needed to examine the extent of intervention complexity required to result in change. This review also showed a lack of consistency in the definitions and measurement of connectedness as well as few mediation analyses testing assumptions of impact on risk-taking behavior through increases in school connectedness. Additionally, this review revealed very limited evaluation of the elements of multicomponent programs that are most effective in increasing school connectedness and reducing adolescent risk taking. |  |  | **✓**  **Related**  <https://eprints.qut.edu.au/56849/2/56849.pdf> (author’s version) |  |
| 1. Chetty, R., Friedman, J. N., Rockoff, J. E. (2014) **Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood.** American Economic Review, 104(9), 2633–2679. | **TS1** | Are teachers' impacts on students' test scores ("value-added") a good measure of their quality? This question has sparked debate partly because of a lack of evidence on whether high value-added (VA) teachers improve students' long-term outcomes. Using school district and tax records for more than one million children, we find that students assigned to high-VA teachers are more likely to attend college, earn higher salaries, and are less likely to have children as teenagers. Replacing a teacher whose VA is in the bottom 5% with an average teacher would increase the present value of students' lifetime income by approximately $250,000 per classroom. |  | Accessible from: <https://doi.org/10.1257/aer.104.9.2633> | **✓** |  |
| 1. Chi, M. T. (2009) **Three types of conceptual change: Belief revision, mental model transformation, and categorical shift.** In International handbook of research on conceptual change (pp. 89-110). Routledge. | **TS2** | Learning of complex material, such as concepts encountered in science classrooms, can occur under at least three different conditions of prior knowledge. First, a student may have no prior knowledge of the to-be-learned concepts, although they may have some related knowledge. In this case, prior knowledge is missing, and learning consists of adding new knowledge. Second, a student may have some correct prior knowledge about the to-be-learned concepts, but that knowledge is incomplete. In this incomplete knowledge case, learning can be conceived of as gap filling. In both missing and incomplete knowledge conditions, knowledge acquisition is of the enriching kind (Carey, 1991). In a third condition, a student may have acquired ideas, either in school or from everyday experience, that are “in conflict with” the to-be-learned concepts (Vosniadou, 2004). Knowledge acquisition under this third case is of the conceptual change kind. It is customary to assume in this case that the prior “in conflict with” knowledge is incorrect or misconceived, and the to-be-learned information is correct, by some normative standard. Thus, learning in this third condition is not adding new knowledge or gap filling incomplete knowledge; rather, learning is changing prior misconceived knowledge to correct knowledge. This chapter focuses on this conceptual change kind of learning. Although this definition of conceptual change appears straightforward, conceptual change kind of learning entails several complex, non-transparent, and interleaved issues. Some of the key non-transparent ideas are: (a) In what ways is knowledge misconceived? (b) Why is such misconceived knowledge often resistant to change? (c) What constitutes a change in prior knowledge? and (d) How should instruction be designed to promote conceptual change? The existence of decades of research on conceptual change speaks to the complexity of these issues. This chapter hopes to add clarity to some of these issues by laying out three different grain sizes in which knowledge can be “in conflict with” the to-be-learned materials, postulating for each grain size the processes by which such “in conflict with knowledge” can be changed, and speculating on the kind of instruction that might achieve such change. We start by providing some definitions and assumptions about concepts and categories in conceptual change. |  |  | **✓**  <https://education.asu.edu/sites/default/files/chi_concpetualchangechapter_0.pdf> |  |
| 1. Christodoulou, D. (2017) **Making Good Progress: The Future of Assessment for Learning.** Oxford: OUP. | **TS6** | *Making Good* Progress? is a research-informed examination of formative assessment practices that analyses the impact Assessment for Learning has had in our classrooms. Making Good Progress? outlines practical recommendations and support that Primary and Secondary teachers can follow in order to achieve the most effective classroom-based approach to ongoing assessment. Written by Daisy Christodoulou, Head of Assessment at Ark Academy, *Making Good Progress?* offers clear, up-to-date advice to help develop and extend best practice for any teacher assessing pupils in the wake of life beyond levels. |  |  |  |  |
| 1. Clark, R., Nguyen, F. & Sweller, J. (2006) **Efficiency in Learning: Evidence-Based Guidelines to Manage Cognitive Load.** John Wiley & Sons. | **TS2** | "Efficiency in Learning" offers a road map of the most effective ways to use the three fundamental communication of training: visuals, written text, and audio. Regardless of how you are delivering your training materials in the classroom, in print, by synchronous or asynchronous media the book's methods are easily applied to your lesson presentations, handouts, reference guides, or e-learning screens. Designed to be a down-to-earth resource for all instructional professionals, "Efficiency in Learning's" guidelines are clearly illustrated with real-world examples. |  |  |  |  |
| 1. Coe, R. (2013)   **\*Improving Education: A triumph of hope over experience.**  Centre for Evaluation and Monitoring. | **TS6** | Despite the apparently plausible and widespread belief to the contrary, the evidence that levels of attainment in schools in England have systematically improved over the last 30 years is unconvincing. Much of what is claimed as school improvement is illusory, and many of the most commonly advocated strategies for improvement are not robustly proven to work. Even the claims of school effectiveness research – that we can identify good schools and teachers, and the practices that make them good – seem not to stand up to critical scrutiny. Recent growth of interest in evidence-based practice and policy appears to offer a way forward; but the evidence from past attempts to implement evidence-based approaches is rather disappointing. Overall, an honest and critical appraisal of our experience of trying to improve education is that, despite the best intentions and huge investment, we have failed – so far – to achieve it. Nevertheless, we have reason to be hopeful, provided we are willing to learn from our experience. Specifically, I will argue that we need to do four things: to be clear what kinds of learning we value; to evaluate, and measure properly, teaching quality; to invest in high-quality professional development; and to evaluate robustly the impact of changes we make. |  | Accessible from: <http://www.cem.org/attachments/publications/ImprovingEducation2013.pdf> | **✓** |  |
| 1. Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014) **\*What makes great teaching. Review of the underpinning research.**   Durham University: UK. | **TS3**  **TS4**  **TS7** | This report reviews over 200 pieces of research to identify the elements of teaching with the strongest evidence of improving attainment. It finds some common practices can be harmful to learning and have no grounding in research. Specific practices which are supported by good evidence of their effectiveness are also examined and six key factors that contribute to great teaching are identified. The report also analyses different methods of evaluating teaching including: using ‘value-added’ results from student test scores; observing classroom teaching; and getting students to rate the quality of their teaching. |  | Available at:  <http://bit.ly/2OvmvKO> | **✓** |  |
| 1. Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., Saunders, L. & Coe, R. (2015) **\*Developing Great Teaching.** | **TS8** | The 2014 DfE consultation on A world-class teaching profession stated that “Feedback from the profession has consistently indicated that too many of the development opportunities on offer are of variable quality”.1 “Too often ‘CPD’ is viewed narrowly as attending courses or listening to stale talks accompanied by endless slides… Teacher development is not always adequately focussed on the specific needs of pupils, nor is it always sustained and practice-based.”2 “There is currently too little robust evidence on the impact of different types of professional development for teachers.”3 These comments on the quality of CPD in England broadly chime with the findings from the OECD TALIS 2013 survey, which states that teachers here report higher than average participation in courses and workshops (75%) and in-service training in outside organizations (22%), but lower than average participation in more in-depth activities, such as research or formal qualifications – and less time spent overall. It was in this context that the government announced its intention in 2015 to support the creation of an independent College of Teaching, as well as to offer a new fund “which will support high quality, evidence-based professional development programmes, led by the Teaching Schools network and rigorously evaluated for impact.”4 It also proposed a new ‘What Works Clearinghouse’-style online platform for knowledge sharing and new non-mandatory standards for teachers’ professional development. This paper draws on the emerging findings from the ongoing umbrella review of evidence on effective professional development for teachers being undertaken by CUREE, UCL IOE and Durham University to indicate implications for future policy around teacher professional development and learning (CPDL). |  | Accessible from: <https://tdtrust.org/about/dgt> [accessed 18 October 2018] | **✓** |  |
| 1. Cowan, N. (2008) **What are the differences between long-term, short-term, and working memory?** Progress in brain research, 169, 323-338. | **TS2**  **TS3** | In the recent literature there has been considerable confusion about the three types of memory: long-term, short-term, and working memory. This chapter strives to reduce that confusion and makes upto-date assessments of these types of memory. Long- and short-term memory could differ in two fundamental ways, with only short-term memory demonstrating (1) temporal decay and (2) chunk capacity limits. Both properties of short-term memory are still controversial but the current literature is rather encouraging regarding the existence of both decay and capacity limits. Working memory has been conceived and defined in three different, slightly discrepant ways: as short-term memory applied to cognitive tasks, as a multi-component system that holds and manipulates information in short-term memory, and as the use of attention to manage short-term memory. Regardless of the definition, there are some measures of memory in the short term that seem routine and do not correlate well with cognitive aptitudes and other measures (those usually identified with the term ‘‘working memory’’) that seem more attention demanding and do correlate well with these aptitudes. |  |  | **✓**  <https://labs.wsu.edu/attention-perception-performance/documents/2016/05/cowan_2008.pdf/> |  |
| 1. Darling-Hammond, L. (2009) **Professional Learning in the Learning Profession.** | **TS8** | Improving professional learning for educators is a crucial step in transforming schools and improving academic achievement. To meet federal requirements and public expectations for school and student performance, the nation needs to bolster teacher skills and knowledge to ensure that every teacher is able to teach increasingly diverse learners, knowledgeable about student learning, competent in complex core academic content, and skillful at the craft of teaching. This report reveals that much of the professional development available today focuses on educators' academic content knowledge, and pays growing attention to mentoring support, particularly for new teachers. But, overall, the kind of high-intensity, job-embedded collaborative learning that is most effective is not a common feature of professional development across most states, districts, and schools in the United States. The purpose of this report is to provide policymakers, researchers, and school leaders with a teacher-development research base that can lead to powerful professional learning, instructional improvement, and student learning. It examines what research has revealed about professional learning that improves teachers' practice and student learning. It describes the relative availability of such opportunities in the United States as well as in high-achieving nations around the world, which have been making substantial and sustained investments in professional learning for teachers over the last two decades. |  |  | **✓**  <https://www.researchgate.net/publication/237327162_Professional_Learning_in_the_Learning_Profession_A_Status_Report_on_Teacher_Development_in_the_United_States_and_Abroad/link/00b7d53552f45e2f9c000000/download>  <https://edpolicy.stanford.edu/sites/default/files/publications/professional-learning-learning-profession-status-report-teacher-development-us-and-abroad.pdf> |  |
| 1. Davis, P., Florian, L., Ainscow, M., Dyson, A., Farrell, P., Hick, P., Rouse, M. (2004) **\*Teaching Strategies and Approaches for Pupils with Special Educational Needs: A Scoping Study.** | **TS5** | Since the 1997 Green Paper, Excellence for All Children, the government has made a firm commitment to a high quality of education for pupils with special educational needs (SEN). It has recognised that building the capacity of teachers and schools to teach pupils with a diverse range of SEN is key to raising the achievement of these pupils. This report provides an overview of teaching strategies and approaches for pupils with special educational needs, the theoretical underpinnings of these strategies and approaches, and the role of specialist knowledge in teaching these pupils. The report also considers how the findings of the scoping study might become embedded in every day teaching practice. |  | Accessible from: <http://dera.ioe.ac.uk/6059/1/RR516.pdf> | **✓** |  |
| 1. Deans for Impact (2015) **The Science of Learning.** | **TS2**  **TS3** | The Science of Learning summarizes existing cognitive-science research on how students learn, and connects it to practical implications for teaching. The report is a resource for teacher-educators, new teachers, and anyone in the education profession who is interested in how learning takes place.  Deans for Impact believes all teacher-candidates should know the cognitive-science principles explored in The Science of Learning. And all educators, including new teachers, should be able to connect those principles to their practical implications for the classroom. |  | Accessible from: <https://deansforimpact.org/resources/the-science-of-learning/> [retrieved 10 October 2018]. | **✓** |  |
| 1. Department for Education (2018) **Schools: guide to the 0 to 25 SEND code of practice.** | **TS8** | This statutory code contains:   * details of legal requirements that you must follow without exception * statutory guidance that you must follow by law unless there’s a good reason not to   It explains the duties of local authorities, health bodies, schools and colleges to provide for those with special educational needs under part 3 of the Children and Families Act 2014. |  | Accessible from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/349053/Schools\_Guide\_to\_the\_ 0\_to\_25\_SEND\_Code\_of\_Practice.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/349053/Schools_Guide_to_the_%200_to_25_SEND_Code_of_Practice.pdf) [accessed 18 October 2018] | **✓** |  |
| 1. Deunk, M. I., Smale-Jacobse, A. E., de Boer, H., Doolaard, S., & Bosker, R. J. (2018) **Effective differentiation Practices: A systematic review and meta-analysis of studies on the cognitive effects of differentiation practices in primary education.** Educational Research Review, 24(February), 31–54. | **TS5** | This [systematic review](https://www.sciencedirect.com/topics/psychology/systematic-review) gives an overview of the effects of differentiation practices on language and math performance in primary education, synthesizing the results of empirical studies (n = 21) on this topic since 1995. We extracted 78 effect sizes from the included studies. We found that using computerized systems as a differentiation tool and using differentiation as part of a broader program or reform had small to moderate positive effects on students’ performance. Between- or within-class homogeneous ability grouping had a small negative effect on low-ability students, but no effect on others. The finding that computer technology can be a useful tool to facilitate differentiated instruction is not covered in earlier reviews. Moreover, our findings emphasize that homogeneous ability grouping alone is not enough to guarantee differentiated instruction. This stresses the importance of embedding differentiation practices in a broader educational context. |  | Accessible from: <https://doi.org/10.1016/j.edurev.2018.02.002> | **✓**  <https://www.rug.nl/research/portal/files/56288856/Author_s_version_Effective_Differentiation_Practices.pdf> |  |
| 1. Donker, A. S., de Boer, H., Kostons, D., Dignath van Ewijk, C. C., & van der Werf, M. P. C. (2014) **Effectiveness of learning strategy instruction on academic performance: A meta-analysis.** Educational Research Review, 11, 1–26. | **TS4** | In this meta-analysis the results of studies on learning strategy instruction focused on improving [self-regulated learning](https://www.sciencedirect.com/topics/social-sciences/self-regulated-learning) were brought together to determine which specific strategies were the most effective in increasing academic performance. The meta-analysis included 58 studies in primary and secondary education on interventions aimed at improving cognitive, metacognitive, and management strategy skills, as well as motivational aspects and metacognitive knowledge. A total of 95 interventions and 180 effect sizes demonstrated substantial effects in the domains of writing (Hedges’ g = 1.25), science (.73), mathematics (.66) and comprehensive reading (.36). These domains differed in terms of which strategies were the most effective in improving academic performance. However, metacognitive knowledge instruction appeared to be valuable in all of them. Furthermore, it was found that the effects were higher when self-developed tests were used than in the case of intervention-independent tests. Finally, no differential effects were observed for students with different ability levels. To conclude, the authors have listed some implications of their analysis for the educational practice and made some suggestions for further research. |  | Accessible from: <https://doi.org/10.1016/j.edurev.2013.11.002> | **✓**  <https://www.ucn.dk/Files/Billeder/ucn/Kurser-og-videreuddannelser/Learning-strategy-meta-analysis-BUTM.pdf> |  |
| 1. Donovan, M. S., & Bransford, J. D. (2005) **How students learn: Mathematics in the classroom.** Washington, DC: The National Academies Press. | **TS4** | How Students Learn: Mathematics in the Classroom builds on the discoveries detailed in the best-selling How People Learn. Now these findings are presented in a way that teachers can use immediately, to revitalize their work in the classroom for even greater effectiveness.  This book shows how to overcome the difficulties in teaching math to generate real insight and reasoning in math students. It also features illustrated suggestions for classroom activities. |  |  | **✓**  <https://www.nap.edu/catalog/11101/how-students-learn-mathematics-in-the-classroom> |  |
| 1. Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013)  **Improving students’ learning with effective learning techniques: Promising directions from cognitive and educational psychology.** Psychological Science in the Public Interest, Supplement, 14(1), 4–58. | **TS2**  **TS4** | Many students are being left behind by an educational system that some people believe is in crisis. Improving educational outcomes will require efforts on many fronts, but a central premise of this monograph is that one part of a solution involves helping students to better regulate their learning through the use of effective learning techniques. Fortunately, cognitive and educational psychologists have been developing and evaluating easy-to-use learning techniques that could help students achieve their learning goals. In this monograph, we discuss 10 learning techniques in detail and offer recommendations about their relative utility. We selected techniques that were expected to be relatively easy to use and hence could be adopted by many students. Also, some techniques (e.g., highlighting and rereading) were selected because students report relying heavily on them, which makes it especially important to examine how well they work. The techniques include elaborative interrogation, self-explanation, summarization, highlighting (or underlining), the keyword mnemonic, imagery use for text learning, rereading, practice testing, distributed practice, and interleaved practice. |  | Accessible from: <https://doi.org/10.1177/1529100612453266> | **✓**  <https://pcl.sitehost.iu.edu/rgoldsto/courses/dunloskyimprovinglearning.pdf> |  |
| 1. DuPaul, G. J., Belk, G. D., & Puzino, K. (2016)  **Evidence-Based Interventions for Attention Deficit Hyperactivity Disorder in Children and Adolescents.** Handbook of Evidence-Based Interventions for Children and Adolescents, 167. | **TS7** | This comprehensive handbook for evidence-based mental health and learning interventions with children and adolescents is distinguished by its explicit yet concise guidance on implementation in practice. With a compendium of proven strategies for resolving more than 40 of the most pressing and prevalent issues facing young people, the book provides immediate guidance and uniform step-by-step instructions for resolving issues ranging from psychopathological disorders to academic problems. Busy academics, practitioners, and trainees in schools and outpatient clinical settings will find this resource to be an invaluable desktop reference for facilitating well-informed decision making.  Unlike other volumes that ignore or merely reference the evidence base of various interventions, this book focuses on providing immediate, empirically supported guidance for putting these strategies into direct practice. Issues covered include crisis interventions and response, social and emotional issues, academic/learning issues, psychopathological disorders, neuropsychological disorders, and the behavioral management of childhood health issues. Each chapter follows a consistent format including a brief description of the problem and associated characteristics, etiology and contributing factors, and three evidence-based, step-by-step sets of instructions for implementation. Additionally, each chapter provides several websites offering further information about the topic. Featuring contributions from leading scholars and practitioners on each issue covered, this book will be a valuable resource for school and child clinical psychologists, counselors, social workers, and therapists as well as other health and mental health professionals whose primary practice is with children and adolescents. |  |  |  |  |
| 1. Education Endowment Foundation (2015) **\*Making Best Use of Teaching Assistants Guidance Report.** | **TS8** | While the number of teachers in mainstream schools in England has remained relatively steady over the last decade or so, the number of full-time equivalent TAs has more than trebled since 2000: from 79,000 to 243,700. Teaching assistants comprise over a quarter of the workforce in mainstream schools in England: 35% of the primary workforce, and 14% of the secondary school workforce. The number of full-time equivalent TAs has more than trebled since 2000: from 79,000 to 262,800. On the basis of headcount data, there are currently more TAs in English nursery and primary schools than teachers: 273,200 vs. 248,900.1 About 7% of TAs in state-funded schools have higher-level teaching assistant (HLTA) status.  A key reason for increasing the number of TAs was to help deal with problems with teacher workloads. In 2003, the government introduced The National Agreement to help raise pupil standards and tackle excessive teacher workload, in large part via new and expanded support roles and responsibilities for TAs and other support staff. The growth in the numbers of TAs has also been driven by the push for greater inclusion of pupils with special educational needs and disabilities (SEND) into mainstream schools, with TAs often providing the key means by which inclusion is facilitated. Given that SEN pupils and low-attaining pupils are more likely to claim Free School Meals (FSM)1. TAs also work more closely with pupils from low-income backgrounds. Indeed, expenditure on TAs is one of the most common uses of the Pupil Premium in primary schools, a government initiative that assigns funding to schools in proportion to the number of pupils on FSM.  A combination of these factors means that schools now spend approximately £4.4 billion each year on TAs, corresponding to 13% of the education budget. This presents an excellent opportunity for improvements in practice, with such a large and already committed resource in place. The recommendations in this guidance recognise the fact that schools are operating within already tight budgets; however, noticeable improvements in pupil outcomes can be made through the thoughtful use of existing resources, without significant additional expenditure. |  | Accessible from: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/> [retrieved 10 October 2018] | **✓** |  |
| 1. Education Endowment Foundation (2016) **\*A marked improvement? A review of the evidence on written marking.** | **TS6** | Marking plays a central role in teachers’ work and is frequently the focus of lively debate. It can provide important feedback to pupils and help teachers identify pupil misunderstanding. However, the Government’s 2014 Workload Challenge survey identified the frequency and extent of marking requirements as a key driver of large teacher workloads. The reform of marking policies was the highest workload-related priority for 53% of respondents. More recently, the 2016 report of the Independent Teacher Workload Review Group noted that written marking had become unnecessarily burdensome for teachers and recommended that all marking should be driven by professional judgement and be “meaningful, manageable and motivating”. To shed further light on the prevalence of different marking practices, the Education Endowment Foundation (EEF) commissioned a national survey of teachers in primary and secondary schools in England. The survey, conducted by the National Foundation for Educational Research, identified a wide range of marking approaches between schools and suggests teachers are combining different strategies to fulfil the multiple purposes of marking pupils’ work. Given this diversity, the increased use of high-intensity strategies such as triple-marking, and the huge amount of time currently invested in marking, it is essential to ensure that marking is as efficient and impactful as possible. |  | Accessible from:  <https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Marking_Review_April_2016.pdf> | **✓** |  |
| 1. Education Endowment Foundation (2016) **Improving Literacy in Key Stage One Guidance Report.** | **TS4** | This report offers eight practical evidence-based recommendations—that are relevant to all pupils, but particularly to those struggling with their literacy. To develop the recommendations we reviewed the best available international research and consulted experts to arrive at key principles for effective literacy teaching.  This report is part of a series providing guidance on literacy teaching. It is specific to the needs of pupils at Key Stage 1 and emphasises the need for a balanced and engaging approach to developing reading, which integrates both decoding and comprehension skills. The report focuses on core classroom teaching while recognising that a small number of pupils will require additional support—in the form of high-quality, structured, targeted interventions—to make progress. |  | Accessible from: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/> [retrieved 10 October 2018] | **✓** |  |
| 1. Education Endowment Foundation (2017) **Improving Mathematics in Key Stages Two and Three Guidance Report.** | **TS4** | This guidance report focuses on the teaching of mathematics to pupils in Key Stages 2 and 3.  It is not intended to provide a comprehensive guide to mathematics teaching. We have made recommendations where there are research findings that schools can use to make a significant difference to pupils’ learning, and have focused on the questions that appear to be most salient to practitioners. There are aspects of mathematics teaching not covered by this guidance. In these situations, teachers must draw on their knowledge of mathematics, professional experience and judgement, and assessment of their pupils’ knowledge and understanding.  The focus is on improving the quality of teaching. Excellent maths teaching requires good content knowledge, but this is not sufficient. Excellent teachers also know the ways in which pupils learn mathematics and the difficulties they are likely to encounter, and how mathematics can be most effectively taught.  This guidance is aimed primarily at subject leaders, headteachers, and other staff with responsibility for leading improvements in mathematics teaching in primary and secondary schools. Classroom teachers and teaching assistants will also find this guidance useful as a resource to aid their day-to-day teaching. |  | Accessible from: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/> [retrieved 10 October 2018] | **✓** |  |
| 1. Education Endowment Foundation (2017) **Metacognition and Self-regulated learning Guidance Report.** | **TS4** | Evidence suggests the use of ‘metacognitive strategies’ – which get pupils to think about their own learning - can be worth the equivalent of an additional +7 months’ progress when used well. However, while the potential impact of these approaches is very high, particularly for disadvantaged pupils, less is known about how to apply them effectively in the classroom.  This guidance report reviews the best available research to offer teachers and senior leaders practical advice on how to develop their pupils’ metacognitive skills and knowledge. The report has recommendations in seven areas and ‘myth busts’ common misconceptions teachers have about metacognition.  For example, some teachers think they need to teach metacognitive approaches in ‘learning to learn’ or ‘thinking skills’ sessions. But the report warns that metacognitive strategies should be taught in conjunction with specific subject content as pupils find it hard to transfer these generic tips to specific tasks. |  | Accessible from: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/> [retrieved 10 October 2018] | **✓** |  |
| 1. Education Endowment Foundation (2018) **Improving Secondary Science Guidance Report.** | **TS2**  **TS3**  **TS4**  **TS7** | The attainment gap in science may not be as well-documented as the gap in English and maths, but it is just as pervasive. Our research has shown that disadvantaged pupils start to fall behind in science in Key Stage 1; the gap only gets wider throughout primary and secondary school and on to A-level.  Helping schools to use evidence and to understand better the most effective ways to improve results is the best way to tackle this country’s stark science attainment gap.  This is why we’ve produced this guidance report. It offers seven practical evidence-based recommendations—that are relevant to all pupils, but particularly to those struggling with science. |  | Accessible from: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/> [retrieved 10 October 2018]. | **✓** |  |
| 1. Education Endowment Foundation (2018) **Preparing for Literacy Guidance Report.** | **TS3** | This guidance report offers early years professionals seven practical evidence-based recommendations to provide every child–but particularly those from disadvantaged homes–with a high quality and well-rounded grounding in early literacy, language and communication.  One recommendation focuses on the importance of high quality interactions between adults and children to develop their communication and language skills. Another suggests using a range of different activities– like singing, storytelling and nursery rhymes–to develop children’s early reading and ability to hear and manipulate sounds. To arrive at the recommendations we reviewed the best available international research and consulted experts to arrive at key principles for preparing for literacy.  This report is part of a series providing guidance on literacy teaching. It builds on the recommendations presented in our Improving Literacy in Key Stage One and Two reports, but is specific to the needs of three to five year old children. |  | Accessible from: <https://educationendowmentfoundation.org.uk/public/files/Preparing_Literacy_Guidance_2018.pdf> | **✓** |  |
| 1. Education Endowment Foundation (2018) **\*Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit** | **TS1**  **TS3**  **TS4**  **TS5**  **TS6**  **TS7**  **TS8** | An accessible summary of the international evidence on teaching 5-16 year-olds. |  | Accessible from: <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit> [retrieved 10 October 2018] | **✓** |  |
| 1. Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009) **The Impact of Vocabulary Instruction on Passage-Level Comprehension of School-Age Children: A Meta-Analysis.** Journal of Research on Educational Effectiveness, 2(1), 1–44. | **TS4** | A meta-analysis of vocabulary interventions in grades pre-K to 12 was conducted with 37 studies to better understand the impact of vocabulary on comprehension. Vocabulary instruction was found to be effective at increasing students' ability to comprehend text with custom measures (d = 0.50), but was less effective for standardized measures (d = 0.10). When considering only custom measures, and controlling for method variables, students with reading difficulties (d = 1.23) benefited more than three times as much as students without reading problems (d = 0.39) on comprehension measures. Gains on vocabulary measures, however, were comparable across reading ability. In addition, the correlation of vocabulary and comprehension effects from studies reporting both outcomes was modest (r = .43). |  | Accessible from: <https://doi.org/10.1080/19345740802539200> | **✓** |  |
| 1. Gathercole, S., Lamont, E., & Alloway, T. (2006) **Working memory in the classroom.** Working memory and education, 219-240. | **TS2** | Psychologists have been trying to understand the factors that underpin children's success and failure in different educational domains for many years. One psychological function that has been found to play an important role in educational achievement is 'working memory', the processes involved in the temporary maintenance and manipulation of information. This book provides the reader with an up-to-date review of the research that has identified how working memory relates to academic attainment in: reading, reading comprehension, arithmetic and writing, as well as looking at how children with difficulties relating to hearing impairment and attention deficits differ in terms of their working memory. Other chapters focus on how working memory is called upon in classroom settings, how working memory can be assessed, and approaches to remediation. The opening chapter of the book provides an account of working memory from the architect of the model that has dominated psychological theory for over two decades. This book is a valuable resource for psychologists, educationalists, and anyone seeking to understand more about the cognitive basis of educational achievement in children. |  |  | **✓**  **Related**  <https://www.academia.edu/2651134/Working_Memory_in_the_Classroom> (article in journal) |  |
| 1. Gibson, S., Oliver, L. and Dennison, M. (2015) **Workload Challenge: Analysis of teacher consultation responses.** Department for Education. | **TS6** | Research into teachers’, support staff’s and sixth-form college staff’s opinions about the causes of unnecessary workload in schools and their suggested solutions. |  | Accessible from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/485075/DFE-RR456A\_- \_Workload\_Challenge\_Analysis\_of\_teacher\_consultation\_responses\_sixth\_form\_colleges.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485075/DFE-RR456A_-%20_Workload_Challenge_Analysis_of_teacher_consultation_responses_sixth_form_colleges.pdf) | **✓**  <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/401406/RR445_-_Workload_Challenge_-_Analysis_of_teacher_consultation_responses_FINAL.pdf> |  |
| 1. Gutman, L. & Schoon, L. (2013) **The impact of non-cognitive skills on the outcomes of young people.** | **TS7** | The term ‘non-cognitive skills’ refers to a set of attitudes, behaviours, and strategies that are thought to underpin success in school and at work, such as motivation, perseverance, and self-control. They are usually contrasted with the ‘hard skills’ of cognitive ability in areas such as literacy and numeracy, which are measured by academic tests. Non-cognitive skills are increasingly considered to be as important as—or even more important than—cognitive skills or IQ in determining academic and employment outcomes. Indeed, there is now growing attention from policymakers on how such ‘character’ or ‘soft’ skills can be developed in children and young people.  However, despite growing interest in this topic, the causal relationship between non-cognitive skills and later outcomes is not well established. This rapid literature review is intended to summarise the existing evidence on how ‘non-cognitive skills’ can be defined and measured; assess the evidence that such skills have a causal impact on later outcomes; and the role of select interventions that aim to improve non-cognitive skills in children and young people. It has been conducted by the Institute of Education, and was commissioned by the Education Endowment Foundation and Cabinet Office to inform future work in this area. |  | Accessible from: <https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Lit_Review_Non-CognitiveSkills.pdf> [retrieved 10 October 2018] | **✓**  <https://pdfs.semanticscholar.org/f4a5/2db3001fb6fb22eef5dc20267b5b807fd8ff.pdf> |  |
| 1. Guzzetti, B. J. (2000) **Learning counter-intuitive science concepts: What have we learned from over a decade of research?** Reading & Writing Quarterly: Overcoming Learning Difficulties, 16, 89 –98. | **TS3** | A decade and more of quantitative research has been conducted in reading education to determine the relative efficacy of various instructional strategies in changing students nonscientific preconceptions. Following a meta-analysis of these investigations, qualitative research has been conducted to explore how and why conceptual change occurs. This narrative review presents little-known ndings from these studies that have direct implications for classroom practice and future research agendas. |  | Accessible from: <http://dx.doi.org/10.1080/105735600277971> |  |  |
| 1. Hanushek, E. (1992) **The Trade-off between Child Quantity and Quality.** Journal of Political Economy, 100(4), 859–887. | **TS1** | An empirical investigation of trade-offs between number of children and their scholastic performance confirms that family size directly affects children's achievement. Though parents show no favoritism to first-born children, being early in the birth order implies a distinct advantage, entirely because of the higher probability of being in a small family. Recent large changes in family size explain a portion of aggregate test score declines, but increased divorce rates and market work by mothers have no apparent impact. Finally, teachers are shown to differ enormously, even though performance differences are poorly captured by commonly measured teacher characteristics. The evidence supports a teacher skill interpretation of differences in classroom achievement. |  |  | **✓**  <http://hanushek.stanford.edu/sites/default/files/publications/Hanushek%201992%20JPE%20100(1).pdf> |  |
| 1. Harlen, W. & James, M. (1997) **Assessment and Learning: differences and relationships between formative and summative assessment.** Assessment in Education: Principles, Policy & Practice 4:3, 365-379. | **TS6** | The central argument of this paper is that the formative and summative purposes of assessment have become confused in practice and that as a consequence assessment fails to have a truly formative role in learning. The importance of this role is argued particularly in relation to learning with understanding (deep learning). It is pointed out that the requirements of assessment for formative and summative purposes differ in several dimensions, including reliability, the reference base of judgements and the focus of the information used. This challenges the assumption that summative judgements can be formed by simple summation of formative ones. An alternative procedure for linking formative and summative assessment is proposed such that their separate functions are preserved. |  |  | **✓**  <https://www.researchgate.net/profile/Mary_James3/publication/233203583_Assessment_and_Learning_Differences_and_Relationships_between_Formative_and_Summative_Assessment/links/54d243780cf28e069723bf35/Assessment-and-Learning-Differences-and-Relationships-between-Formative-and-Summative-Assessment.pdf> |  |
| 1. Hattie, J. (2009) **Visible learning: a synthesis of over 800 meta-analyses relating to achievement.** London: Routledge. | **TS5** | This unique and ground-breaking book is the result of 15 years research and synthesises over 800 meta-analyses on the influences on achievement in school-aged students. It builds a story about the power of teachers, feedback, and a model of learning and understanding. The research involves many millions of students and represents the largest ever evidence based research into what actually works in schools to improve learning. Areas covered include the influence of the student, home, school, curricula, teacher, and teaching strategies. A model of teaching and learning is developed based on the notion of visible teaching and visible learning. A major message is that what works best for students is similar to what works best for teachers - an attention to setting challenging learning intentions, being clear about what success means, and an attention to learning strategies for developing conceptual understanding about what teachers and students know and understand. Although the current evidence based fad has turned into a debate about test scores, this book is about using evidence to build and defend a model of teaching and learning. A major contribution is a fascinating benchmark/dashboard for comparing many innovations in teaching and schools. |  |  |  | **✓**  SR 371.1 HAT |
| 1. Hattie, J. (2012) **Visible Learning for Teachers.** Oxford: Routledge. | **TS2** | Visible learning for teachers , written for both new and experienced teachers, discusses data derived from 1000 meta‐analyses of the effectiveness of over 150 different procedures used in teaching. Most of the findings are considered under six main headings: Preparing the classroom; Starting the lesson; The flow of the lesson—learning; The flow of the lesson—feedback; and The end of the lesson. |  |  |  |  |
| 1. Hattie, J., & Timperley, H. (2007) **The Power of Feedback.** Review of Educational Research, 77(1), 81–112. | **TS6** | Feedback is one of the most powerful influences on learning and achievement, but this impact can be either positive or negative. Its power is frequently mentioned in articles about learning and teaching, but surprisingly few recent studies have systematically investigated its meaning. This article provides a conceptual analysis of feedback and reviews the evidence related to its impact on learning and achievement. This evidence shows that although feedback is among the major influences, the type of feedback and the way it is given can be differentially effective. A model of feedback is then proposed that identifies the particular properties and circumstances that make it effective, and some typically thorny issues are discussed, including the timing of feedback and the effects of positive and negative feedback. Finally, this analysis is used to suggest ways in which feedback can be used to enhance its effectiveness in classrooms. |  | Accessible from: <https://doi.org/10.3102/003465430298487> | **✓**  <http://www.columbia.edu/~mvp19/ETF/Feedback.pdf> |  |
| 1. Hodgen, J., Foster, C., Marks, R. & Brown, M. (2018) **Improving Mathematics in Key Stages Two and Three: Evidence Review.** | **TS4** | The purpose of the review is to synthesise the best available international evidence regarding teaching mathematics to children between the ages of 9 and 14 and to address the question: what is the evidence regarding the effectiveness of different strategies for teaching mathematics? In addition to this broad research question, we were asked to address a set of more detailed topics developed by a group of teachers and related to aspects of pupil learning, pedagogy, the use of resources, the teaching of specific mathematical content, and pupil attitudes and motivation. Using these topics, we derived the 24 research questions that we address in this review. |  | Accessible from <https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/improvingmathematics-in-key-stages-two-and-three/> [retrieved 22 October 2018], 149-157 | **✓** |  |
| 1. Hughes, D., Mann, A., Barnes, S., Baladuf, B. and McKeown, R. (2016) **Careers education: International literature review.** | **TS8** | This report, commissioned by the Education Endowment Foundation (EEF), supported by the Bank of America Merrill Lynch, is designed to provide an overview of the evidence-base underpinning careers education and its impact on pupils’ skills and outcomes. We define careers education as: ‘Careers-focused school- or college-mediated provision designed to improve students’ education, employment and/or social outcomes.’ The main questions addressed by this report include:  • What intervention research has been carried out since the year 1996 measuring the impact of careers education on improving young people’s outcomes?  • What is the strength of evidence of this research?  • Where are the research gaps that need to be addressed?  Furthermore, this review aims to identify which interventions might be most appropriate to implement in the UK context to better support careers education, and in turn improve educational, economic, or social outcomes for young people. |  | Accessible from: <https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/careers-education/> [Accessed 18 October 2018] | **✓** |  |
| 1. Institute of Education Sciences (2008) **\*Reducing Behavior Problems in the Elementary School Classroom.** | **TS1**  **TS7** | Designed for elementary school educators and school- and district-level administrators, this guide offers prevention, implementation, and schoolwide strategies that can be used to reduce problematic behavior that interferes with the ability of students to attend to and engage fully in instructional activities. |  | Accessible from: <https://ies.ed.gov/ncee/wwc/PracticeGuide/4>. | **✓** |  |
| 1. Institute of Education Sciences (2009) **Assisting Students Struggling with Mathematics: Response to Intervention for Elementary and Middle Schools.** | **TS4** | Students struggling with mathematics may benefit from early interventions aimed at improving their mathematics ability and ultimately preventing subsequent failure. This guide provides eight specific recommendations intended to help teachers, principals, and school administrators use Response to Intervention (RtI) to identify students who need assistance in mathematics and to address the needs of these students through focused interventions. The guide provides suggestions on how to carry out each recommendation and explains how educators can overcome potential roadblocks to implementing the recommendations. |  | Accessible from: <https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/rti_math_pg_042109.pdf> | **✓** |  |
| 1. Jay, T., Willis, B., Thomas, P., Taylor, R., Moore, N., Burnett, C., Merchant, G., Stevens, A. (2017) **Dialogic Teaching: Evaluation Report.** | **TS4** | Dialogic Teaching aims to improve pupil engagement and attainment by improving the quality of classroom talk. Teachers are trained in strategies that enable pupils to reason, discuss, argue and explain rather than merely respond, in order to develop higher order thinking and articulacy. The programme uses video review, print materials and in-school mentoring to support teachers’ practice across English, maths and science lessons. |  | Accessible from: <https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/dialogicteaching> [retrieved 10 October 2018] | **✓** |  |
| 1. Jerrim, J., & Vignoles, A. (2016) **The link between East Asian "mastery" teaching methods and English children's mathematics skills.** Economics of Education Review, 50, 29-44. | **TS3** | A small group of high-performing East Asian economies dominate the top of the Programme for International Student Assessment (PISA) rankings. Although there are many possible explanations for this, East Asian teaching methods and curriculum design are two factors to have particularly caught policymakers’ attention. Yet there is currently little evidence as to whether any particular East Asian teaching method actually represents an improvement over the status quo in England, and whether such methods can be successfully introduced into Western education systems. This paper provides new evidence on this issue by presenting results from two clustered Randomised Controlled Trials (RCT’s), where a Singaporean inspired ‘mastery’ approach to teaching mathematics was introduced into a selection of England’s primary and secondary schools. We find evidence of a modest, positive treatment effect that comes at a relatively low per-pupil cost. |  | Accessible from: <https://doi.org/10.1016/j.econedurev.2015.11.003> | **✓**  <https://discovery.ucl.ac.uk/id/eprint/1472906/1/Jerrim_Vignoles_MM.pdf> |  |
| 1. Johnson, S., Buckingham, M., Morris, S., Suzuki, S., Weiner, M., Hershberg, R., B. Weiner, Hershberg, R., Fremont, E., Batanova, M., Aymong, C., Hunter, C., Bowers, E., Lerner, J., & Lerner, R. (2016) **Adolescents’ Character Role Models: Exploring Who Young People Look Up to as Examples of How to Be a Good Person.** Research in Human Development, 13(2), 126–141. | **TS1** | Research has explored young people’s role models in general, but little is known about role models whom youth look up to in relation to their character. The authors asked 220 adolescents (M age = 13.4, 45% White, 15% Hispanic, 11% Black) from Massachusetts and Connecticut to nominate a character role model, someone they knew personally and looked up to as an example of how to be a good person; 142 (64.5%) listed a character role model, with family members nominated most frequently, followed by friends and other adults (e.g., teachers). Youth cited how their character role model treated them as well as other people as reasons for selecting their character role models. Participants also rated the quality of the relationship, role-modeling behaviors, and socialization practices. There were similar positive characteristics associated with the three character role model types, but there were also differences (e.g., family character role models were rated most positively on relationship quality as well as role-modeling behaviors, whereas friend character role models rarely provided character socialization). Findings suggested that youth understand the relational nature of character and also point to the potentially powerful role of character role models in promoting character development. |  | Accessible from: <https://doi.org/10.1080/15427609.2016.1164552> | **✓**  <https://dl.tufts.edu/downloads/jq085x44m> |  |
| 1. Jussim, L. & Harber, K. (2005) **Teacher Expectations and Self-Fulfilling Prophecies: Knowns and Unknowns, Resolved and Unresolved Controversies.** Personality and Social Psychology Review 2005, Vol. 9, No. 2, 131–155. | **TS1** | This article shows that 35 years of empirical research on teacher expectations justifies the following conclusions: (a) Self-fulfilling prophecies in the classroom do occur, but these effects are typically small, they do not accumulate greatly across perceivers or over time, and they may be more likely to dissipate than accumulate; (b) powerful self-fulfilling prophecies may selectively occur among students from stigmatized social groups; (c) whether self-fulfilling prophecies affect intelligence, and whether they in general do more harm than good, remains unclear, and (d) teacher expectations may predict student outcomes more because these expectations are accurate than because they are self-fulfilling. Implications for future research, the role of self-fulfilling prophecies in social problems, and perspectives emphasizing the power of erroneous beliefs to create social reality are discussed. |  |  | **✓**  <http://nwkpsych.rutgers.edu/~kharber/publications/Jussim.&.Harber.2005.%20Teacher%20Expectations%20and%20Self-Fulfilling%20Prophesies.pdf> |  |
| 1. Kalyuga, S. (2007) **Expertise reversal effect and its implications for learner-tailored instruction.** Educational Psychology Review, 19(4), 509-539. | **TS4** | The interactions between levels of learner prior knowledge and effectiveness of different instructional techniques and procedures have been intensively investigated within a cognitive load framework since mid-90s. This line of research has become known as the expertise reversal effect. Apart from their cognitive load theory-based prediction and explanation, patterns of empirical findings on the effect fit well those in studies of Aptitude Treatment Interactions (ATI) that were originally initiated in mid-60s. This paper reviews recent empirical findings associated with the expertise reversal effect, their interpretation within cognitive load theory, relations to ATI studies, implications for the design of learner-tailored instructional systems, and some recent experimental attempts of implementing these findings into realistic adaptive learning environments. |  |  | **✓**  <https://www.researchgate.net/publication/225767816_Expertise_Reversal_Effect_and_Its_Implications_for_Learner-Tailored_Instruction> |  |
| 1. Kern, L., & Clemens, N. H. (2007) **Antecedent strategies to promote appropriate classroom behavior.** Psychology in the Schools, 44(1), 65–75. | **TS7** | In response to ongoing concerns with student academic and behavior problems, antecedent strategies have garnered increasing attention. Antecedent intervention approaches focus on structuring the environment to prevent problems and enhance motivation. At the class‐wide level, implementation of these strategies can create a structured and orderly environment to which most students are responsive. In the case of persistent behavior problems, specific events that precede problem behavior can be removed or modified to create individualized antecedent interventions. The empirical literature base supporting the value of this approach has witnessed rapid growth. In this article, we offer a rationale for the use of antecedent strategies and provide literature‐based examples of applications within school settings at both the class‐wide and individual levels. In addition, we discuss practical considerations for implementing antecedent interventions. |  | Accessible from: <https://doi.org/10.1002/pits.20206> |  |  |
| 1. Kirschner, P., Sweller, J., Kirschner, F. & Zambrano, J. (2018)  **From cognitive load theory to collaborative cognitive load theory.** In International Journal of Computer-Supported Collaborative Learning, 13(2), 213-233. | **TS2**  **TS4** | Cognitive load theory has traditionally been associated with individual learning. Based on evolutionary educational psychology and our knowledge of human cognition, particularly the relations between working memory and long-term memory, the theory has been used to generate a variety of instructional effects. Though these instructional effects also influence the efficiency and effectiveness of collaborative learning, be it computer supported or face-to-face, they are often not considered either when designing collaborative learning situations/environments or researching collaborative learning. One reason for this omission is that cognitive load theory has only sporadically concerned itself with certain particulars of collaborative learning such as the concept of a collective working memory when collaborating along with issues associated with transactive activities and their concomitant costs which are inherent to collaboration. We illustrate how and why cognitive load theory, by adding these concepts, can throw light on collaborative learning and generate principles specific to the design and study of collaborative learning |  |  | **✓**  <https://link.springer.com/content/pdf/10.1007/s11412-018-9277-y.pdf> |  |
| 1. Kluger, A. N., & DeNisi, A. (1996) **The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory.** Psychological Bulletin, 119(2), 254–284. | **TS6** | Since the beginning of the century, feedback interventions (FIs) produced negative--but largely ignored--effects on performance. A meta-analysis (607 effect sizes; 23,663 observations) suggests that FIs improved performance on average ( d  = .41) but that over one-third of the FIs decreased performance. This finding cannot be explained by sampling error, feedback sign, or existing theories. The authors proposed a preliminary FI theory (FIT) and tested it with moderator analyses. The central assumption of FIT is that FIs change the locus of attention among 3 general and hierarchically organized levels of control: task learning, task motivation, and meta-tasks (including self-related) processes. The results suggest that FI effectiveness decreases as attention moves up the hierarchy closer to the self and away from the task. These findings are further moderated by task characteristics that are still poorly understood. |  | Accessible from: <https://doi.org/10.1037/0033-2909.119.2.254> | **✓**  <https://mrbartonmaths.com/resourcesnew/8.%20Research/Marking%20and%20Feedback/The%20effects%20of%20feedback%20interventions.pdf> |  |
| 1. Kraft, M., Blazar, D., & Hogan, D. (2018) **The Effect of Teacher Coaching on Instruction and Achievement: A Meta-Analysis of the Causal Evidence.** Review of Educational Research, 003465431875926. | **TS8** | Teacher coaching has emerged as a promising alternative to traditional models of professional development. We review the empirical literature on teacher coaching and conduct meta-analyses to estimate the mean effect of coaching programs on teachers’ instructional practice and students’ academic achievement. Combining results across 60 studies that employ causal research designs, we find pooled effect sizes of 0.49 standard deviations (SD) on instruction and 0.18 SD on achievement. Much of this evidence comes from literacy coaching programs for prekindergarten and elementary school teachers in the United States. Although these findings affirm the potential of coaching as a development tool, further analyses illustrate the challenges of taking coaching programs to scale while maintaining effectiveness. Average effects from effectiveness trials of larger programs are only a fraction of the effects found in efficacy trials of smaller programs. We conclude by discussing ways to address scale-up implementation challenges and providing guidance for future causal studies. |  | Accessible from: <https://doi.org/10.3102/0034654318759268> | **✓**  <https://scholar.harvard.edu/files/mkraft/files/kraft_blazar_hogan_2016_teacher_coaching_meta-analysis_wp_w_appendix.pdf> |  |
| 1. Kriegbaum, K., Becker, N., & Spinath, B. (2018) **The Relative Importance of Intelligence and Motivation as Predictors of School Achievement: A meta-analysis.** Educational Research Review. | **TS5** | This meta-analysis summarizes 74 studies (N = 80,145) that simultaneously examined the predictive power of intelligence and motivation for school achievement. First, we found average correlations between intelligence (r = 0.44) and motivation (r = 0.27) with school achievement and between intelligence and motivation (r = 0.17). Moderator analyses showed that the correlation between motivation and school achievement was higher for expectancies than for values. No moderator effects were found for grade level, school form or gender. Second, in a path model, 24% of variance in school achievement was explained overall. From this overall explained variance in school achievement, 66.6% was uniquely explained by intelligence and 16.6% uniquely by motivation, whereas the two predictors commonly explained 16.6%. Thus, the results show that both intelligence and motivation contribute substantial, unique shares to the prediction of school achievement as well as an additional share of commonly explained variance. |  | Accessible from: <https://doi.org/10.1016/j.edurev.2018.10.001> |  |  |
| 1. Lazowski, R. A., & Hulleman, C. S. (2016) **Motivation Interventions in Education: A Meta-Analytic Review.** Review of Educational Research, 86(2), 602–640. | **TS1**  **TS7** | This meta-analysis provides an extensive and organized summary of intervention studies in education that are grounded in motivation theory. We identified 74 published and unpublished papers that experimentally manipulated an independent variable and measured an authentic educational outcome within an ecologically valid educational context. Our analyses included 92 independent effect sizes with 38,377 participants. Our results indicated that interventions were generally effective, with an average mean effect size of d = 0.49 (95% confidence interval = [0.43, 0.56]). Although there were descriptive differences in the effect sizes across several moderator variables considered in our analyses, the only significant difference found was for the type of experimental design, with randomized designs having smaller effect sizes than quasi-experimental designs. This work illustrates the extent to which interventions and accompanying theories have been tested via experimental methods and provides information about appropriate next steps in developing and testing effective motivation interventions in education. |  | Accessible from: <https://doi.org/10.3102/0034654315617832> |  |  |
| 1. Leung, K. C. (2015) **Preliminary Empirical Model of Crucial Determinants of Best Practice for Peer Tutoring on Academic Achievement Preliminary Empirical Model of Crucial Determinants of Best Practice for Peer Tutoring on Academic Achievement.** Journal of Educational Psychology, 107(2), 558–579. | **TS4** | Previous meta-analyses of the effects of peer tutoring on academic achievement have been plagued with theoretical and methodological flaws. Specifically, these studies have not adopted both fixed and mixed effects models for analyzing the effect size; they have not evaluated the moderating effect of some commonly used parameters, such as comparing same-age reciprocal peer tutoring, same-age nonreciprocal, or cross-age peer tutoring; considered the educational level of tutee or tutor; or properly addressed publication bias. Most studies are confined to specific populations and particular subjects (mainly mathematics and reading), and some studies are confounded by other types of intervention (such as cooperative learning or adult-led tutoring). Hence, there is a compelling need for an updated, comprehensive meta-analysis evaluating the effect of peer tutoring on academic achievement that incorporates advances in methodology, is not confounded by other modes of peer learning, and engages a wide range of participants and various subjects. The present study demonstrates that peer tutoring has a positive impact on academic achievement. The moderators and crucial determinants of the effectiveness of peer tutoring are identified and compared. Moreover, program parameters based on the concepts of role theory and interdependent group contingencies are evaluated. Finally, a preliminary empirical model of the crucial determinants of best practices for peer tutoring on academic achievement is proposed. |  | Accessible from: <https://doi.org/10.1037/a0037698> |  |  |
| 1. Machin, S., McNally, S., & Viarengo, M. (2018) **Changing how literacy is taught: Evidence on synthetic phonics.** American Economic Journal: Economic Policy, 10(2), 217–241. | **TS3** | A significant number of people have very low levels of literacy in many OECD countries. This paper studies a national change in policy and practice in England that refocused the teaching of reading around “synthetic phonics.” This was a low-cost intervention that targeted the pedagogy of existing teachers. We evaluate the pilot and first phase of the national rollout. While strong initial effects tend to fade out on average, they persist for those with children with a higher initial propensity to struggle with reading. As a result, this program helped narrow the gap between disadvantaged pupils and other groups. |  | Accessible from: <https://doi.org/10.1257/pol.20160514> | **✓** |  |
| 1. Mitchell, D. (2014) **What really works in special and inclusive education.** Oxford: Routledge. | **TS7** | This fully revised and updated third edition presents teachers with a range of up-to-date evidence-based strategies they can use to tackle the challenges of inclusive education. An essential resource for the busy educator, each of the twenty-nine strategies explored in this book has a substantial research base drawn from a range of countries, a strong theoretical rationale and clear guidelines on their implementation, as well as cautionary advice where necessary.  Key features of the third edition include:   * An easy to follow structure divided into four categories: behavioural approaches, social strategies, cognitive strategies and mixed strategies * Eight new chapters, focusing on topical areas such as neuroscience, social and emotional education, visual learning and communication and the transition from school to post-school environments * Updated chapters that consider the most diverse and up-to-date research in education, psychology, health and technology   Whilst the focus of this book is on children with special educational needs, the strategies are universally applicable, making this essential reading for all classroom teachers, school leaders, teacher educators and students, educational psychologists, special needs coordinators and consultants and educational researchers. |  |  |  |  |
| 1. Muijs, D., & Reynolds, D. (2017) **Effective teaching: Evidence and practice.** Thousand Oaks, CA: Sage. | **TS4** | This new edition updates the 2005 edition with the latest research on effective teaching and learning. Appropriate for primary and secondary, the authors continue to provide a broad and comprehenisve overview of what is now a large body of knowledge on effective teaching. The authors maintain their user-friendly style and the structure which takes in generic teaching skills; teaching for specific goals; subject specific strategies and other classroom issues. New to this edition: - updated research evidence - a greater cultural breadth including international research - diversity in the classroom; values and beliefs - assessment for learning |  |  |  |  |
| 1. Murdock-Perriera, L. A., & Sedlacek, Q. C. (2018) **Questioning Pygmalion in the twenty-first century: the formation, transmission, and attributional influence of teacher expectancies.** Social Psychology of Education, 21(3), 691–707. | **TS1** | Teacher expectancy effects, the class of phenomena in which teacher beliefs about students influence student outcomes, are widely believed to operate through recursive processes of teacher-student interaction. Recent work in “wise” interventions has shown profound and robust effects in educational domains, and has attributed these effects to similar recursive processes (Yeager and Walton 2011). In this paper, we lay a foundation for forging connections between what we know about expectancy effects and how we might envision applying that knowledge as a lever in intervention research. We review the evidence for the existence and significance of teacher expectancy effects, as well as their possible mediators, including perceptual biases, confirmation biases, stereotyping, and attributional biases. We also hypothesize that empathy could play a role in mediating a relationship between expectancies and attributions. Finally, we propose a research agenda focused on the transmission, mediation, and attributional effects of teacher expectancies. |  | Accessible from: <https://doi.org/10.1007/s11218-018-9439-9> |  |  |
| 1. OECD (2015) **\*Pisa 2015 Result: Policies and Practices for Successful Schools.** | **TS5** | The OECD Programme for International Student Assessment (PISA) examines not just what students know in science, reading and mathematics, but what they can do with what they know. Results from PISA show educators and policy makers the quality and equity of learning outcomes achieved elsewhere, and allow them to learn from the policies and practices applied in other countries. PISA 2015 Results (Volume II): Policies and Practices for Successful Schools, is one of five volumes that present the results of the PISA 2015 survey, the sixth round of the triennial assessment. It examines how student performance is associated with various characteristics of individual schools and school systems, including the resources allocated to education, the learning environment and how school systems select students into different schools, programmes and classes. |  | Accessible from: <https://doi.org/10.1787/9789264267510-en> | **✓** |  |
| 1. Pan, S. C., & Rickard, T. C. (2018) **Transfer of test-enhanced learning: Meta-analytic review and synthesis.** Psychological Bulletin, 144(7), 710–756. | **TS2**  **TS4** | Attempting recall of information from memory, as occurs when taking a practice test, is one of the most potent training techniques known to learning science. However, does testing yield learning that transfers to different contexts? In the present article, we report the findings of the first comprehensive meta-analytic review into that question. Our review encompassed 192 transfer effect sizes extracted from 122 experiments and 67 published and unpublished articles (N = 10,382) that together comprise more than 40 years of research. A random-effects model revealed that testing can yield transferrable learning as measured relative to a nontesting reexposure control condition (d = 0.40, 95% CI [0.31, 0.50]). That transfer of learning is greatest across test formats, to application and inference questions, to problems involving medical diagnoses, and to mediator and related word cues; it is weakest to rearranged stimulus-response items, to untested materials seen during initial study, and to problems involving worked examples. Moderator analyses further indicated that response congruency and elaborated retrieval practice, as well as initial test performance, strongly influence the likelihood of positive transfer. In two assessments for publication bias using PET-PEESE and various selection methods, the moderator effect sizes were minimally affected. However, the intercept predictions were substantially reduced, often indicating no positive transfer when none of the aforementioned moderators are present. Overall, our results motivate a three-factor framework for transfer of test-enhanced learning and have practical implications for the effective use of practice testing in educational and other training contexts. |  | Accessible from: <https://doi.org/10.1037/bul0000151> | **✓**  <http://stevencpan.bol.ucla.edu/pdf/PR_2018W.pdf> |  |
| 1. Pashler, H., Bain, P. M., Bottge, B. A., Graesser, A., Koedinger, K., McDaniel, M., & Metcalfe, J. (2007) **Organizing Instruction and Study to Improve Student Learning.** US Department of Education. | **TS2** | Much of teaching is about helping students master new knowledge and skills and then helping students not to forget what they have learned. The recommendations in this practice guide are intended to provide teachers with specific strategies for organizing both instruction and students’ studying of material to facilitate learning and remembering information, and to enable students to use what they have learned in new situations. |  |  | **✓**  <https://files.eric.ed.gov/fulltext/ED498555.pdf> |  |
| 1. Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008) **Learning Styles: Concepts and Evidence.** Psychological Science in the Public Interest, 9 (3). | **TS5** | The term "learning styles" refers to the concept that individuals differ in regard to what mode of instruction or study is most effective for them. Proponents of learning-style assessment contend that optimal instruction requires diagnosing individuals' learning style and tailoring instruction accordingly. Assessments of learning style typically ask people to evaluate what sort of information presentation they prefer (e.g., words versus pictures versus speech) and/or what kind of mental activity they find most engaging or congenial (e.g., analysis versus listening), although assessment instruments are extremely diverse. The most common—but not the only—hypothesis about the instructional relevance of learning styles is the meshing hypothesis, according to which instruction is best provided in a format that matches the preferences of the learner (e.g., for a "visual learner," emphasizing visual presentation of information). The learning-styles view has acquired great influence within the education field, and is frequently encountered at levels ranging from kindergarten to graduate school. There is a thriving industry devoted to publishing learning-styles tests and guidebooks for teachers, and many organizations offer professional development workshops for teachers and educators built around the concept of learning styles. The authors of the present review were charged with determining whether these practices are supported by scientific evidence. We concluded that any credible validation of learning-styles-based instruction requires robust documentation of a very particular type of experimental finding with several necessary criteria. First, students must be divided into groups on the basis of their learning styles, and then students from each group must be randomly assigned to receive one of multiple instructional methods. Next, students must then sit for a final test that is the same for all students. Finally, in order to demonstrate that optimal learning requires that students receive instruction tailored to their putative learning style, the experiment must reveal a specific type of interaction between learning style and instructional method: Students with one learning style achieve the best educational outcome when given an instructional method that differs from the instructional method producing the best outcome for students with a different learning style. In other words, the instructional method that proves most effective for students with one learning style is not the most effective method for students with a different learning style. Our review of the literature disclosed ample evidence that children and adults will, if asked, express preferences about how they prefer information to be presented to them. There is also plentiful evidence arguing that people differ in the degree to which they have some fairly specific aptitudes for different kinds of thinking and for processing different types of information. However, we found virtually no evidence for the interaction pattern mentioned above, which was judged to be a precondition for validating the educational applications of learning styles. Although the literature on learning styles is enormous, very few studies have even used an experimental methodology capable of testing the validity of learning styles applied to education. Moreover, of those that did use an appropriate method, several found results that flatly contradict the popular meshing hypothesis. We conclude therefore, that at present, there is no adequate evidence base to justify incorporating learning-styles assessments into general educational practice. Thus, limited education resources would better be devoted to adopting other educational practices that have a strong evidence base, of which there are an increasing number. However, given the lack of methodologically sound studies of learning styles, it would be an error to conclude that all possible versions of learning styles have been tested and found wanting; many have simply not been tested at all. Further research on the use of learning-styles assessment in instruction may in some cases be warranted, but such research needs to be performed appropriately. |  |  | **✓**  https://canvas.ucsc.edu/courses/1085/files/1031/download?verifier=iZJnyvxVHapIoeZrKcNwnbSgyMUHXyu4Av3loec1 |  |
| 1. PISA (2015) **\*PISA in Focus: Do teacher-student relations affect students’ well-being at school?** | **TS1** | Children spend about a third of their waking hours in school during most weeks in the year. Thus, schools have a significant impact on children’s quality of life – including their relationships with peers and adults, and their dispositions towards learning and life more generally. Longitudinal studies suggest that students’ results on the PISA test are correlated with how well students will do later on in life; but strong performance in standardised assessments like PISA explains only so much of future results in other endeavours. Success and well-being in life also depend on how well students have been able to develop socially and emotionally |  | Accessible from: <https://doi.org/10.1787/22260919> | **✓** |  |
| 1. Rathmann K., Herke M., Hurrelmann K., Richter M. (2018) **Perceived class climate and school-aged children's life satisfaction: The role of the learning environment in classrooms.** PLoS ONE 13(2): e0189335. | **TS1** | The aim of this study is to examine the impact of class-level class climate on school-aged children’s life satisfaction. Data was derived from the German National Educational Panel Study (NEPS) using sixth grade school-aged children (n = 4,764, 483 classes). Class climate includes indicators of teachers' care and monitoring, demands, interaction, autonomy, as well as school-aged children's attitudes towards schoolwork at the class- and individual-level. Results showed that individual perceived class climate in terms of teachers' care and monitoring and autonomy was positively related to life satisfaction, whereas school-related demands were related to lower life satisfaction. Besides teachers' care and monitoring at class-level, indicators of class climate were not associated with school-aged children’s life satisfaction, while the individual perceived class climate is more important for life satisfaction. |  | Accessible from: <https://doi.org/10.1371/journal.pone.0189335> | **✓** |  |
| 1. Rich, P. R., Van Loon, M. H., Dunlosky, J., & Zaragoza, M. S. (2017) **Belief in corrective feedback for common misconceptions: Implications for knowledge revision.** Journal of Experimental Psychology: Learning, Memory, and Cognition, 43(3), 492-501. | **TS3** | When correcting a common misconception, it seems likely that for corrective feedback to be effective, it needs to be believed. In 2 experiments, we assessed how participants’ belief in the validity of corrective feedback regarding individual misconceptions influenced knowledge revision. After responding about the validity of a set of misconceptions, participants received either a refutation alone (feedback that they were correct or incorrect) or a refutation accompanied by a supporting explanation, and then rated their belief in the corrective feedback. One week later, participants once again responded about the validity of the misconceptions. Across both experiments, participants corrected their misconceptions more often when they believed the corrective feedback. In addition, participants corrected their misconceptions more often when they had earlier received a refutation with a supporting explanation than when they had received the refutation only. This benefit of supportive explanations on knowledge revision was mediated by belief in the feedback, suggesting that explanations enhance the effectiveness of a correction by increasing belief in the feedback. These findings imply that successful correction of common misconceptions is likely enhanced by techniques that increase people’s belief in the validity of the corrective feedback. |  | Accessible from: <http://dx.doi.org/10.1037/xlm0000322> |  |  |
| 1. Roediger, H. L., & Butler, A. C. (2011) **The critical role of retrieval practice in long-term retention.** Trends in Cognitive Sciences, 15(1), 20–27. | **TS2** | Learning is usually thought to occur during episodes of studying, whereas retrieval of information on testing simply serves to assess what was learned. We review research that contradicts this traditional view by demonstrating that retrieval practice is actually a powerful mnemonic enhancer, often producing large gains in long-term retention relative to repeated studying. Retrieval practice is often effective even without feedback (i.e. giving the correct answer), but feedback enhances the benefits of testing. In addition, retrieval practice promotes the acquisition of knowledge that can be flexibly retrieved and transferred to different contexts. The power of retrieval practice in consolidating memories has important implications for both the study of memory and its application to educational practice. |  | Accessible from: <https://doi.org/10.1016/j.tics.2010.09.003> | **✓**  <http://eng90.com/wp-content/uploads/2015/05/Haarman5.pdf> |  |
| 1. Rosenshine, B. (2012) **\*Principles of Instruction: Research-based strategies that all teachers should know.** American Educator, 12–20. | **TS2**  **TS3**  **TS4** | This article presents 10 research-based principles of instruction, along with suggestions for classroom practice. These principles come from three sources: (a) research in cognitive science, (b) research on master teachers, and (c) research on cognitive supports. Each is briefly explained in this article. Even though these are three very different bodies of research, there is "no conflict at all" between the instructional suggestions that come from each of these three sources. In other words, these three sources supplement and complement each other. The fact that the instructional ideas from three different sources supplement and complement each other gives teachers faith in the validity of these findings. |  | Accessible from:  <https://doi.org/10.1111/j.1467-8535.2005.00507.x>  Accessible from:  https://www.aft.org//sites/default/files/periodicals/Rosenshine.pdf | **✓**  <https://files.eric.ed.gov/fulltext/EJ971753.pdf> |  |
| 1. Rubie-Davies, C. M., Weinstein, R. S., Huang, F. L., Gregory, A., Cowan, P. A., & Cowan, C. P. (2014)  **Successive teacher expectation effects across the early school years.** Journal of Applied Developmental Psychology, 35(3), 181–191. | **TS1** | The capacity for teacher expectation effects to interact and compound across a child's schooling offers a largely untested mechanism for magnifying or minimizing effects. This study examined four types of long-term teacher expectation effects: within-year effects of single teachers, cross-year effects of single teachers, mediated effects of single and multiple teachers, and compounded effects of multiple teachers. Participants were 110 students tracked from preschool through Grade 4 on measures of achievement and teacher expectations. Evidence was found for within-year but not direct cross-year effects. However, path models demonstrated enduring indirect effects of teacher expectations on cross-year achievement. Multiple years of teacher expectation effects were additive in predicting student achievement at fourth grade, with similar effects for teachers' over- and underestimates of student ability. The study extends understanding of longer-term teacher expectation effects. |  | Accessible from: <https://doi.org/10.1016/j.appdev.2014.03.006> | **✓**  <https://www.academia.edu/24505355/Successive_teacher_expectation_effects_across_the_early_school_years> |  |
| 1. Sadler, D. (1989) **Formative assessment and the design of instructional systems.** Instructional Science, 18(2), pp.119-144. | **TS6** | The theory of formative assessment outlined in this article is relevant to a broad spectrum of learning outcomes in a wide variety of subjects. Specifically, it applies wherever multiple criteria are used in making judgments about the quality of student responses. The theory has less relevance for outcomes in which student responses may be assessed simply as correct or incorrect. Feedback is defined in a particular way to highlight its function in formative assessment. This definition differs in several significant respects from that traditionally found in educational research. Three conditions for effective feedback are then identified and their implications discussed. A key premise is that for students to be able to improve, they must develop the capacity to monitor the quality of their own work during actual production. This in tum requires that students possess an appreciation of what high quality work is, that they have the evaluative skill necessary for them to compare with some objectivity the quality of what they are producing in relation to the higher standard, and that they develop a store of tactics or moves which can be drawn upon to modify their own work. It is argued that these skills can be developed by providing direct authentic evaluative experience for students. Instructional systems which do not make explicit provision for the acquisition of evaluative expertise are deficient, because they set up artificial but potentially removable performance ceilings for students. |  |  | **✓**  <http://michiganassessmentconsortium.org/wp-content/uploads/Formative-Assessment-and-Design-of-Instructional-Systems.pdf> |  |
| 1. Scott, C. E., McTigue, E. M., Miller, D. M., & Washburn, E. K. (2018) **The what, when, and how of preservice teachers and literacy across the disciplines/: A systematic literature review of nearly 50 years of research.** Teaching and Teacher Education, 73, 1–13. | **TS3** | To organize nearly five decades of research regarding teacher preparation in literacy across the disciplines, this study systematically examined and qualitatively synthesized the what, when, and how of the research, resulting in three overarching categories: (a) perceptions, (b) resistance, and (c) experience. Key findings include that when preservice teachers receive instruction through coursework and practicums, their perceptions toward providing literacy instruction in future teaching contexts became more positive. However, researchers often measured such instruction's effect upon content-area literacy courses in the short term, rarely exploring future classroom implementation. Additionally, recommendations for practice and implications for future research are given. |  | Accessible from: <https://doi.org/10.1016/j.tate.2018.03.010> | **✓**  <https://www.researchgate.net/publication/323934850_The_what_when_and_how_of_preservice_teachers_and_literacy_across_the_disciplines_A_systematic_literature_review_of_nearly_50_years_of_research> |  |
| 1. Shanahan, T. (2005) **\*The National Reading Panel Report: Practical Advice for Teachers.** | **TS3** | Research has shown that students can be taught to comprehend the material better while they are reading. Successful instruction of this type has usually focused on the teaching of comprehension strategies--that is, intentional actions students can use during reading to guide their thinking. Such strategies improve both understanding and memory. Some strategies that have been successfully taught include summarization, questioning, story maps, comprehension monitoring, and graphic organizers; however, the teaching of the combined use of multiple strategies has been most effective in improving reading. Strategy teaching is most effective when it takes a gradual release-of-responsibility approach in which the teacher models the strategy use ("I do it"), guides students to use it successfully within reading ("We do it"), and then assigns independent practice with the strategy ("You do it"). Reading comprehension instruction needs to take place in both narrative and expository text. |  | Accessible from: <https://files.eric.ed.gov/fulltext/ED489535.pdf> | **✓** |  |
| 1. Sibieta, L., Greaves, E. & Sianesi, B. (2014) **Increasing Pupil Motivation: Evaluation Report.** | **TS7** | ‘Increasing Pupil Motivation’ was designed to improve attainment at GCSE by providing incentives to increase pupil effort in Year 11. Two schemes for incentivising pupil effort were implemented. The first provided a financial incentive, where pupils were told they had £80 at the beginning of each half-term. Money was deducted if they did not reach the threshold in four measures of effort: attendance, behaviour, classwork and homework. The second provided an incentive of a trip or event. Pupils were allocated a certain number of tickets at the start of term and lost them if they failed to meet targets on the same set of four effort thresholds. Pupils that retained enough ‘tickets’ were rewarded with an event, chosen by pupils in the year group at the start of the school term.  Pupil effort was monitored by the schools involved in the intervention, but the design and development of the incentive schemes was undertaken by the project team at the University of Bristol in the first four half-terms of the 2012/13 academic year.  The target population was relatively deprived schools, classified by schools with an average pupil IDACI (Income Deprivation Affecting Children Index)score in the highest 10% in England. 279 eligible schools were invited to participate by the project team, with 84 schools indicating an initial willingness to participate. 63 schools agreed to participate in the intervention after an initial training event in July 2012; they then formed the final set of experimental schools. |  | Accessible from: <https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/increasing-pupil-motivation/> [retrieved 10 October 2018] | **✓** |  |
| 1. Simonsmeier, B. A., Flaig, M., Deiglmayr, A., Schalk, L., & Well-being, S. (2018) **Domain-Specific Prior Knowledge and Learning: A Meta-Analysis Prior Knowledge and Learning.** | **TS2** | Domain-specific prior knowledge has been hypothesized to be one of the strongest positive determinants of learning, but it might sometimes also hinder learning (e.g., misconceptions or in negative transfer). This meta-analysis integrated empirical findings on the relation between the amount of domain-specific prior knowledge and subsequent cognitive learning outcomes (i.e., knowledge and achievement). We included 240 articles reporting 4327 effect sizes obtained with 62,129 participants. Almost all the studies investigated the correlation between prior knowledge and knowledge at posttest, which was high overall (r + = .521, 95% CI [.491, .550]) and for many moderator levels (e.g., countries and domains). Randomized controlled trials demonstrated the causality of this relation. Surprisingly few studies investigated the correlation between prior knowledge and knowledge gains over time, leading to a low statistical power of these analyses. Descriptively, there was a compensatory effect (negative correlation) for instruction with low cognitive demands and a Matthew effect (positive correlation) for instruction with high cognitive demands and, but only the former reached statistical significance. Overall, the high stability of individual differences in knowledge supports theories emphasizing the accumulative long-term nature of knowledge acquisition. More randomized controlled trials investigating knowledge gains are needed. Generally, several processes (e.g., encoding and elaboration) mediate the effect of prior knowledge on learning. The moderators of prior-knowledge effects need to be interpreted in terms of which mediating processes they affect. The discussion elaborates on these issues and offers a framework for further research on learning through knowledge acquisition. |  | Accessible from: <https://www.psycharchives.org/handle/20.500.12034/642>  **Conference Notes only** | **✓**  <https://www.uni-trier.de/fileadmin/fb1/prof/PSY/PAE/Team/Simonsmeier/SimonsmeierEtAl2019.pdf> |  |
| 1. Sisk, V. F., Burgoyne, A. P., Sun, J., Butler, J. L., & Macnamara, B. N. (2018)  **To What Extent and Under Which Circumstances Are Growth Mind-Sets Important to Academic Achievement? Two Meta-Analyses.** Psychological Science, 29(4), 549–571. | **TS5** | Mind-sets (aka implicit theories) are beliefs about the nature of human attributes (e.g., intelligence). The theory holds that individuals with growth mind-sets (beliefs that attributes are malleable with effort) enjoy many positive outcomes—including higher academic achievement—while their peers who have fixed mind-sets experience negative outcomes. Given this relationship, interventions designed to increase students’ growth mind-sets—thereby increasing their academic achievement—have been implemented in schools around the world. In our first meta-analysis (k = 273, N = 365,915), we examined the strength of the relationship between mind-set and academic achievement and potential moderating factors. In our second meta-analysis (k = 43, N = 57,155), we examined the effectiveness of mind-set interventions on academic achievement and potential moderating factors. Overall effects were weak for both meta-analyses. However, some results supported specific tenets of the theory, namely, that students with low socioeconomic status or who are academically at risk might benefit from mind-set interventions. |  | Accessible from: <https://doi.org/10.1177/0956797617739704>  **Access fee:**  $35.00 | **✓**  https://canvas.harvard.edu/courses/41212/files/8550739/download?verifier=UzVxR3LBEIkbj1g8rQWTyZUiz1r3RdbrHVhD1X2D&wrap=1 |  |
| 1. Skaalvik, E. M., & Skaalvik, S. (2017) **Still motivated to teach? A study of school context variables, stress and job satisfaction among teachers in senior high school.** Social Psychology of Education, 20(1), 15–37. | **TS8** | This study explored how teachers’ working conditions or school context variables (job demands and job resources) were related to their teaching self-concept, teacher burnout, job satisfaction, and motivation to leave the teaching profession among teachers in Norwegian senior high school. Participants were 546 teachers in three counties in central Norway. We analyzed data by means of confirmatory factor analyses and SEM analysis for latent traits. The results supported expectations derived from the Job Demands–Resources model of one health impairment process and one motivational process, but also showed that these processes are related. The analyses indicated that, in the teaching profession, different dimensions of job demands and job resources predict teachers’ well-being and motivation differently. |  | Accessible from: <https://doi.org/10.1007/s11218-016-9363-9>  **Access Fee:**  £29.95 | **✓**  **Related**  [https://www.researchgate.net/publication/306310055\_Teacher\_Stress\_and\_Teacher\_Self-Efficacy\_as\_Predictors\_of\_Engagement\_Emotional\_Exhaustion\_and\_Motivation\_to\_Leave\_the\_Teaching\_Profession (2016](https://www.researchgate.net/publication/306310055_Teacher_Stress_and_Teacher_Self-Efficacy_as_Predictors_of_Engagement_Emotional_Exhaustion_and_Motivation_to_Leave_the_Teaching_Profession%20(2016) Article) |  |
| 1. Slater, H., Davies, N. M., & Burgess, S. (2011) **Do Teachers Matter? Measuring the Variation in Teacher Effectiveness in England.** Oxford Bulletin of Economics and Statistics. | **TS1** | Using a unique primary dataset for the UK, we estimate the effect of individual teachers on student outcomes, and the variability in teacher quality. This links 7,305 pupils to the individual teachers who taught them, in each of their compulsory subjects in the high‐stakes exams at age 16. We use point‐in‐time fixed effects and prior attainment to control for pupil heterogeneity. We find considerable variability in teacher effectiveness, a little higher than the estimates found in the few US studies. We also corroborate recent findings that observed teachers’ characteristics explain very little of the differences in estimated teacher effectiveness. |  | Accessible from: <https://doi.org/10.1111/j.1468-0084.2011.00666.x>  **Access Fee:**  $42 | **✓**  **Related**  <http://www.bristol.ac.uk/media-library/sites/cmpo/migrated/documents/wp212.pdf> (2009 version) |  |
| 1. Speckesser, S., Runge, J., Foliano, F., Bursnall, M., Hudson-Sharp, N., Rolfe, H. & Anders, J. (2018) **Embedding Formative Assessment: Evaluation Report.** | **TS5**  **TS6** | Embedding Formative Assessment is a professional development programme which aims to improve pupil outcomes by embedding the use of formative assessment strategies across a school. Schools receive detailed resource packs to run monthly workshops, known as Teacher Learning Communities, and teachers conduct structured peer observations focusing on the use of formative assessment strategies. |  | Accessible from: <https://educationendowmentfoundation.org.uk/public/files/EFA_evaluation_report.pdf> [retrieved 10 October 2018] | **✓** |  |
| 1. Steenbergen-Hu, S., Makel, M. C., & Olszewski-Kubilius, P. (2016) **What One Hundred Years of Research Says About the Effects of Ability Grouping and Acceleration on K-12 Students Academic Achievement: Findings of Two Second-Order MetaAnalyses.** Review of Educational Research (Vol. 86). | **TS5** | Two second-order meta-analyses synthesized approximately 100 years of research on the effects of ability grouping and acceleration on K–12 students’ academic achievement. Outcomes of 13 ability grouping meta-analyses showed that students benefited from within-class grouping (0.19 ≤ g ≤ 0.30), cross-grade subject grouping (g = 0.26), and special grouping for the gifted (g = 0.37), but did not benefit from between-class grouping (0.04 ≤ g ≤0.06); the effects did not vary for high-, medium-, and low-ability students. Three acceleration meta-analyses showed that accelerated students significantly outperformed their nonaccelerated same-age peers (g = 0.70) but did not differ significantly from nonaccelerated older peers (g = 0.09). Three other meta-analyses that aggregated outcomes across specific forms of acceleration found that acceleration appeared to have a positive, moderate, and statistically significant impact on students’ academic achievement (g = 0.42). |  | Accessible from: <https://doi.org/10.3102/0034654316675417>  **Access fee:**  $37.50 | **✓**  <http://www.k12accountability.org/resources/Gifted-Education/GT_Review_of_Ed_Research_Meta_Analysis.pdf> |  |
| 1. Sweller, J. (2016) **Working Memory, Long-term Memory, and Instructional Design.** Journal of Applied Research in Memory and Cognition, 5(4), 360–367. | **TS2**  **TS4** | [Cognitive load theory](https://www.sciencedirect.com/topics/psychology/cognitive-load-theory) is used to design instruction. Several aspects of [human cognition](https://www.sciencedirect.com/topics/psychology/human-cognition) are critical to instructional design. First, the theory assumes we have not specifically evolved to learn the topics taught in educational and training institutions. Second, these topics require learners to acquire domain-specific rather than generic–cognitive knowledge. Third, while generic–cognitive knowledge does not require explicit instruction because we have evolved to acquire it, domain-specific concepts and skills do require explicit instruction. These factors interact with the capacity and duration constraints of working memory to delineate a cognitive architecture relevant to instructional design. The working memory limits do not apply to biologically primary, generic–cognitive knowledge acquired without explicit instruction but do apply to biologically secondary, domain-specific knowledge that requires explicit instruction. Accordingly, cognitive load theory has been developed to provide techniques that reduce unnecessary working memory load when dealing with explicitly taught, biologically secondary, domain-specific knowledge. |  | Accessible from: <http://doi.org/10.1016/j.jarmac.2015.12.002>  **Access Fee:**  $31.50 |  |  |
| 1. Sweller, J., van Merrienboer, J. J. G., & Paas, F. G. W. C. (1998) **Cognitive Architecture and Instructional Design.** Educational Psychology Review, 10(3), 251–296. | **TS3** | Cognitive load theory has been designed to provide guidelines intended to assist in the presentation of information in a manner that encourages learner activities that optimize intellectual performance. The theory assumes a limited capacity working memory that includes partially independent subcomponents to deal with auditory/verbal material and visual/2- or 3-dimensional information as well as an effectively unlimited long-term memory, holding schemas that vary in their degree of automation. These structures and functions of human cognitive architecture have been used to design a variety of novel instructional procedures based on the assumption that working memory load should be reduced and schema construction encouraged. This paper reviews the theory and the instructional designs generated by it. |  | Accessible from: <https://doi.org/10.1023/A:1022193728205>  **Access fee:**  £29.95 | **✓**  <http://nschwartz.yourweb.csuchico.edu/Sweller%20van%20Merrienboer%20and%20Pass%201998.pdf> |  |
| 1. Tereshchenko, A., Francis, B., Archer, L., Hodgen, J., Mazenod, A., Taylor, B., Travers, M. C. (2018) **Learners’ attitudes to mixed-attainment grouping: examining the views of students of high, middle and low attainment.** Research Papers in Education, 1522, 1–20. | **TS4**  **TS5** | There is a substantial international literature around the impact of different types of grouping by attainment on the academic and personal outcomes of students. This literature, however, is sparse in student voices, especially in relation to mixed-attainment practices. Research has indicated that students of different attainment levels might have different experiences and views of grouping structures. This paper represents a significant contribution to this literature. Drawing on the data collected as part of a large study on student grouping and teaching in England, we analyse the attitudes of students of different attainment levels to mixed-attainment practice, focusing on their explanations for their preferences or aversion to mixed-attainment classes. The data-set is drawn from group discussions and individual interviews with 89 students age 11/12 (Year 7) from eight secondary schools practicing mixed-attainment grouping in mathematics and English. Our analysis identifies some broad patterns in student attitudes, including a strong preference for mixed attainment among those at lower prior attainment. The analysis of the explanations students give for their opinions on mixed-attainment practice demonstrates how the learner identities of different groups of students are constituted in various ways by the discourses around ‘ability’, and constrained by the dominant ideology of ‘ability’ hierarchy. |  | Accessible from: <https://doi.org/10.1080/02671522.2018.1452962> | **✓** |  |
| 1. Tsiplakides, I. & Keramida, A. (2010)  **The relationship between teacher expectations and student achievement in the teaching of English as a foreign language.** English Language Teaching, 3(2), P22. | **TS1** | Research on second and foreign language learning suggests that the expectations that teachers form for their students can often have an impact on students’ behavior and achievement. Some teachers tend to convey differential expectations to students, which appear to have self-fulfilling prophecy effects on them. The self-fulfilling prophecy effects of teacher expectations are an important, yet not adequately appreciated affective variable in second and foreign language learning. In this article we present the theoretical background on teacher’s expectations for their students. We also describe the sources of teachers’ expectations and the ways through which teachers communicate expectations to students. We finally deal with the pedagogical implications, offering suggestions about how teachers might become more successful in communicating high expectations. |  | Retrieved from: <http://files.eric.ed.gov/fulltext/EJ1081569.pdf> | **✓** |  |
| 1. Ursache, A., Blair, C., & Raver, C. C. (2012) **The promotion of self‐regulation as a means of enhancing school readiness and early achievement in children at risk for school failure.** Child Development Perspectives, 6(2), 122-128. | **TS7** | This article reviews the literature on self-regulation and the development of school readiness and academic competence in early childhood. It focuses on relations between the development of cognitive aspects of regulation-referred to as executive functions and defined as abilities used to regulate information and to organize thinking in goal-directed activities-and the development of reactivity and regulation in stimulus-driven emotion, attention, and physiological stress response systems. It examines a bidirectional model of cognition-emotion interaction in the development of self-regulation in which top-down executive control of thought and behavior develops in reciprocal and interactive relation to bottom-up influences of emotion and stress reactivity. The bidirectional model is examined within the context of innovative preschool interventions designed to promote school readiness by promoting the development of self-regulation. |  |  | **✓**  **Related**  <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7100892/pdf/nihms-1565903.pdf>  (Author Manuscript) |  |
| 1. Van de Pol, J., Volman, M., Oort, F., & Beishuizen, J. (2015) **The effects of scaffolding in the classroom: support contingency and student independent working time in relation to student achievement, task effort and appreciation of support.** Instructional Science, 43(5), 615-641. | **TS4** | Teacher scaffolding, in which teachers support students adaptively or contingently, is assumed to be effective. Yet, hardly any evidence from classroom studies exists. With the current experimental classroom study we investigated whether scaffolding affects students’ achievement, task effort, and appreciation of teacher support, when students work in small groups. We investigated both the effects of support quality (i.e., contingency) and the duration of the independent working time of the groups. Thirty social studies teachers of pre-vocational education and 768 students (age 12–15) participated. All teachers taught a five-lesson project on the European Union and the teachers in the scaffolding condition additionally took part in a scaffolding intervention. Low contingent support was more effective in promoting students’ achievement and task effort than high contingent support in situations where independent working time was low (i.e. help was frequent). In situations where independent working time was high (i.e., help was less frequent), high contingent support was more effective than low contingent support in fostering students’ achievement (when correcting for students’ task effort). In addition, higher levels of contingent support resulted in a higher appreciation of support. Scaffolding, thus, is not unequivocally effective; its effectiveness depends, among other things, on the independent working time of the groups and students’ task effort. The present study is one of the first experimental study on scaffolding in an authentic classroom context, including factors that appear to matter in such an authentic context. |  |  | **✓**  <https://pure.uva.nl/ws/files/2685884/172330_art_3A10.1007_2Fs11251_015_9351_z.pdf> |  |
| 1. Wiliam, D. (2010) **What Counts as Evidence of Educational Achievement? The Role of Constructs in the Pursuit of Equity in Assessment.** Review of Research in Education, 34, pp. 254-284. | **TS6** | The idea that validity should be considered a property of inferences, rather than of assessments, has developed slowly over the past century. In early writings about the validity of educational assessments, validity was defined as a property of an assessment. The most common definition was that an assessment was valid to the extent that it assessed what it purported to assess and this definition is still in widespread use. The idea that construct interpretations are at the heart of validity argument and that therefore construct definition is essential to effective assessment has also now become widely accepted, at least within the measurement community. In this article, the author traces one strand in the development of the theory of validity--the increasing importance attached to the role of constructs in validating educational assessments--and shows how, ensuring that the primary focus is on the construct of interest, rather than the assessment itself, can bring some greater clarity to a number of debates, especially in the area of equity in assessment. The author discusses, in some detail, three particular arenas of assessment: (1) testing for admission to higher education; (2) the rise, and fall, of measures involving constructed-response items; and (3) the assessment of students with special educational needs. Within each of these areas, the author explores the interplay of issues of technical adequacy with equity and shows how attention that has in the past been directed at the adequacy of the assessments might be more fruitfully directed toward the construct of interest. |  |  |  |  |
| 1. Wiliam, D. (2017) **Assessment, marking and feedback. In Hendrick, C. and McPherson, R. (Eds.) What Does This Look Like in the Classroom? Bridging the gap between research and practice.** Woodbridge: John Catt. | **TS6** | Educators in the UK and around the world are uniting behind the need for the profession to have access to more high-quality research and evidence to do their job more effectively. But every year thousands of research papers are published, some of which contradict each other. How can busy teachers know which research is worth investing time in reading and understanding? And how easily is that academic research translated into excellent practice in the classroom?  In this thorough, enlightening and comprehensive book, Carl Hendrick and Robin Macpherson ask 18 of today's leading educational thinkers to distill the most up-to-date research into effective classroom practice in 10 of the most important areas of teaching. The result is a fascinating manual that will benefit every single teacher in every single school, in all four corners of the globe. |  |  |  |  |
| 1. Willingham, D. T. (2002) **Ask the Cognitive Scientist. Inflexible Knowledge: The First Step to Expertise.** American Educator, 26(4), 31-33. | **TS3** | So often, even if I inventively present new material or emphasize applying the new knowledge in various situations, what I get back from my student seems "rote." Why is this? What can I do about it?  Cognitive science has shown us that when new material is first learned, the mind is biased to remember things in concrete forms that are difficult to apply to new situations. This bias seems best overcome by the accumulation of a greater store of related knowledge, facts, and examples. To understand this bias, we need to first distinguish between what I would call genuinely "rote" knowledge and the much more common "inflexible" knowledge. Second, we'll look at a number of experiments that strongly suggest the mind tends to remember new concepts in terms that are concrete and superficial, not abstract or deep. Third, we'll review experiments designed to illuminate the nature of expertise, which can be thought of as consisting of "flexible" knowledge. Fourth, we'll consider what this means for teaching. |  | Accessible from: <https://www.aft.org/periodical/american-educator/winter-2002/ask-cognitive-scientist-inflexible-knowledge> | **✓** |  |
| 1. Willingham, D. T. (2009) **Why don’t students like school?** San Francisco, CA: JosseyBass. | **TS2**  **TS7** | Contrary to popular belief, the brain is not designed for thinking. It’s designed to save you from having to think, because the brain is actually not very good at thinking. Thinking is slow and unreliable. Nevertheless, people enjoy mental work if it is successful. People like to solve problems, but not to work on unsolvable problems. If schoolwork is always just a bit too difficult for a student, it should be no surprise that she doesn’t like school much. The cognitive principle that guides this article is: People are naturally curious, but they are not naturally good thinkers; unless the cognitive conditions are right, people will avoid thinking. The implication of this principle is that teachers should reconsider how they encourage their students to think in order to maximize the likelihood that students will get the pleasurable rush that comes from successful thought. |  |  | **✓**  <https://moodrmoo.files.wordpress.com/2014/10/why-dont-students-like-school.pdf>  <https://www.aft.org/sites/default/files/periodicals/WILLINGHAM%282%29.pdf> |  |
| 1. Willingham, D. T. (2010) **The Myth of Learning Styles.** Change, 42(5), 32–35. | **TS5** | There is no credible evidence that learning styles exist. While we will elaborate on this assertion, it is important to counteract the real harm that may be done by equivocating on the matter. In what follows, we will begin by defining “learning styles”; then we will address the claims made by those who believe that they exist, in the process acknowledging what we consider the valid claims of learning-styles theorists. But in separating the wheat from the pseudoscientific chaff in learning-styles theory, we will make clear that the wheat is contained in other educational approaches as well. A belief in learning styles is not necessary to incorporating useful knowledge about learning into one’s teaching. We will then discuss the reasons why learning styles beliefs are so prevalent. Finally, we will offer suggestions about collegiate pedagogy, given that we have no evidence learning styles do not exist. |  |  | **✓**  <http://www.elegantbrain.com/edu4/classes/readings/depository/TNS_560/tools/rien_will_myth_learn_style.PDF> |  |
| 1. Wittwer, J., & Renkl, A. (2010) **How Effective are Instructional Explanations in Example-Based Learning? A Meta-Analytic Review.** Educational Psychology Review, 22(4), 393–409. | **TS2**  **TS4** | The worked example effect within cognitive load theory is a very well-established finding. The concrete effectiveness of worked examples in a learning situation, however, heavily depends on further moderating factors. For example, if learners improve their processing of worked examples by actively explaining the worked examples to themselves, they are usually better able to solve transfer problems. Another way to enhance example processing is to present learners with instructional explanations instead of prompting them to produce these explanations on their own. In this article, we review 21 experimental studies to address the issue whether instructional explanations support example-based learning. Meta-analytic results lead to three important conclusions: First, the benefits of instructional explanations for example-based learning per se are minimal. Second, instructional explanations are more helpful for acquiring conceptual knowledge than for acquiring procedural knowledge. Third, instructional explanations are not necessarily more effective than other methods supporting example processing such as self-explaining. |  | Accessible from: <https://doi.org/10.1007/s10648-010-9136-5>  **Access Fee:**  £29.95 | **✓**  <https://www.researchgate.net/publication/225335923_How_Effective_are_Instructional_Explanations_in_Example-Based_Learning_A_Meta-Analytic_Review> |  |
| 1. Wubbels, T., Brekelmans, M., den Brok, P., Wijsman, L., Mainhard, T., & van Tartwijk, J. (2014) **Teacher-student relationships and classroom management.** In E. T. Emmer, E. Sabornie, C. Evertson, & C. Weinstein (Eds.).Handbook of classroom management: Research, practice, and contemporary issues (2nd ed., pp. 363–386). New York, NY: Routledge. | **TS1**  **TS7** | Classroom management is a topic of enduring concern for teachers, administrators, and the public. It consistently ranks as the first or second most serious educational problem in the eyes of the general public, and beginning teachers consistently rank it as their most pressing concern during their early teaching years. Management problems continue to be a major cause of teacher burnout and job dissatisfaction. Strangely, despite this enduring concern on the part of educators and the public, few researchers have chosen to focus on classroom management or to identify themselves with this critica. |  |  |  |  |
| 1. Yeager, D. S., & Walton, G. M. (2011) **Social-Psychological Interventions in Education: They’re Not Magic.** Review of Educational Research, 81(2), 267–301. | **TS7** | Recent randomized experiments have found that seemingly “small” social-psychological interventions in education—that is, brief exercises that target students’ thoughts, feelings, and beliefs in and about school—can lead to large gains in student achievement and sharply reduce achievement gaps even months and years later. These interventions do not teach students academic content but instead target students’ psychology, such as their beliefs that they have the potential to improve their intelligence or that they belong and are valued in school. When social-psychological interventions have lasting effects, it can seem surprising and even “magical,” leading people either to think of them as quick fixes to complicated problems or to consider them unworthy of serious consideration. The present article discourages both responses. It reviews the theoretical basis of several prominent social-psychological interventions and emphasizes that they have lasting effects because they target students’ subjective experiences in school, because they use persuasive yet stealthy methods for conveying psychological ideas, and because they tap into recursive processes present in educational environments. By understanding psychological interventions as powerful but context-dependent tools, educational researchers will be better equipped to take them to scale. This review concludes by discussing challenges to scaling psychological interventions and how these challenges may be overcome. |  | Accessible from: <https://doi.org/10.3102/0034654311405999>  **Access Fee:**  $37.50 | **✓**  <https://s3.wp.wsu.edu/uploads/sites/2111/2018/05/Yeager-Walton-REVIEW-OF-EDUCATIONAL-RESEARCH-2011-Yeager-267-3011.pdf> |  |
| 1. Zimmerman, B. J. (2002) **Becoming a Self-Regulated Learner: An Overview.** Theory Into Practice, 41(2), 64–70. | **TS4** | Provides a theoretical overview of self-regulated learning, considering prospects of developing self-regulation within novice learners. The paper discusses students' self-regulation as a way to compensate for their individual differences in learning, defining the essential qualities of academic self-regulation, describing the structure and function of self-regulatory processes, and giving an overview of methods for guiding students to learn on their own. |  | Accessible from: <https://www.jstor.org/stable/1477457?seq=1#page_scan_tab_content>  **Access fee:**  $48.00 | **✓**  <https://www.researchgate.net/publication/237065878_Becoming_a_Self-Regulated_Learner_An_Overview> |  |
| 1. Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007) **The Scientific Base Linking Social and Emotional Learning to School Success.** Journal of Educational and Psychological Consultation, 17(2–3), 191–210. | **TS1** | Schools will be most successful in their educational mission when they inte- grate efforts to promote children's academic, social, and emotional learning (Elias et al., 1997). There is general agreement that it is important for schools to foster children's social-emotional development, but all too often educa- tors think about this focus in a fragmented manner, either as an important end in itself or as a contributor to enhancing children's health (e.g., drug prevention), safety (e.g., violence prevention), or citizenship (e.g., service learning). Although social and emotional learning (SEL) plays important roles in influencing these nonacademic outcomes, SEL also has a critical role in improving children's academic performance and lifelong learning. This chap- ter and book make a compelling conceptual and empirical case for linking SEL to improved school attitudes, behavior, and performance. Intrinsically, schools are social places and learning is a social process. Students do not learn alone but rather in collaboration with their teachers, in the company of their peers, and with the support of their families. Emo- tions can facilitate or hamper their learning and their ultimate success in school. Because social and emotional factors play such an important role, schools must attend to this aspect of the educational process for the benefit of all students. Indeed most do. There is a long history of schools focusing on areas such as social responsibility and moral character (e.g., Jackson, 1968), and learning and behaving responsibly in the classroom have been seen as causally related. Researchers have found that prosocial behavior in the classroom is linked with positive intellectual outcomes (e.g., DiPerna & Elliott, 1999; Feshbach & Feshbach, 1987; Haynes, Ben-Avie, & Ensign, |  | Accessible from: <https://doi.org/10.1080/10474410701413145>  **Access Fee:**  £34 | **✓**  <https://www.researchgate.net/publication/242224840_The_Scientific_Base_Linking_Social_and_Emotional_Learning_to_School_Success> |  |