

Kait Woods - Annotated Bibliography

Your chosen topic:

My chosen topic is the effectiveness of different types of professional development on student achievement (thinking about keynote speakers, peer-to-peer, session organized lectures, online, face to face, other factors that can make PD more or less effective).

Your rationale for choosing this topic:

My rationale for choosing this topic is that most of my research planning has involved studying professional development, as my own and peers' experiences of it has been somewhat negative on its classroom impact. I also have left the research topic broad enough to gather a plethora of already existing information related to teacher professional development and the factors that can influence its effectiveness. This is to include studies solely on teachers, and also include studies or information that might include student achievement data or school level data. This topic will help me see the existing research pertaining to teacher professional development and existing research on classroom impact.

Article 1	Annotations
APA Citation	Mulaimovic, N., Richter, E., Lazarides, R., Richter, D. (2025) Comparing Quality and Engagement in Face-to-Face and Online Teacher Development. <i>British Journal of Educational Technology</i> .
Purpose of the study	The rationale of this study was to compare the quality of online and in person professional development opportunities for teachers. With more professional development starting to be available online, the study sought to see if those opportunities actually produced learning, participation, and collaboration among participants that are often essential parts of in person professional development opportunities for teachers. The study seeks to find which parts of both modes

	are most helpful for ensuring learning happens during professional development sessions, too.
Research Questions	The primary study seeks to clarify which aspects of both modes of professional development are most conducive to participation and collaboration that support learning outcomes. The study also explores teacher preference in PD format - online v. in person.
Methods and Findings	Researchers first developed a definition for “quality” professional development which included collaboration, teacher perception on usefulness, organization of content, and overall engagement. Relying largely on surveys across the study, results were analyzed using descriptive statistics. After each professional development offering, participants had the opportunity to take a voluntary survey in which they answered qualitative questions about the professional development and also a portion of the survey was based on a likert scale, which was to analyze their engagement in the professional development. One of the questions was found unreliable on the survey and was not considered in their study due to low response rate from participants. As far as the first question about quality, teachers with 5 or more years of experience thought highly of both online and in person PD as it related to the definitions for “quality” the researchers came up with. Teachers with less than 5 years of experience responded that online courses were less effective in the areas of organization and engagement. As for engagement, online PD was lower in engagement findings with a notable difference being found among female and male teachers - female teachers often reporting being more engaged than their male counterparts, but still not as engaged as in person responses overall.
Why you chose this article	I am interested in the differences in online and in person professional development, and overall different types/modes of professional development. It can be assumed that higher engagement = better outcomes for learning. This study is interesting in that it supports the idea that in person leads to higher perceived engagement among teaching professionals across grade levels, disciplines, and genders.

Critical Reflection	The main researcher of this article is a white, european female based in Germany. She studies German teachers and works at a German University. Her other 2 publications are related to Education in Germany too. This study is very new, and the data set is small, but it closely aligns with other studies in this bibliography and their outcomes.
Article 2	Annotations
APA Citation	Zhang, H., Lyu, X., Qui, Y. (2024). Effective Teacher Professional Development and Its Influencing Factors: A Cross National Comparison of the United States, China, Finland, and Singapore. <i>Journal of Teacher Education</i> . 2024 75(5):502-515
Purpose of the study	The purpose of this study is to address a gap in current research that felt important. The gap being addressed is aimed at looking at effective teacher professional development across several cultures at a school level AND an individual teacher level. By comparing both levels the study hopes to isolate specific parts of professional development, cultural influences, and personal/contextual influences on professional development. This study considers influences in the effectiveness of professional development on multiple levels of interest, and at several scopes (individual and whole school). It relates teacher motivation to effective teacher professional development outcomes to see if there is a notable correlation between the two.
Research Questions	The research questions focused on if there was a consistent relationship between teacher experience, motivation in their career, teacher independence, classroom management, and student relationships and more perceived effective teacher professional development. The data collected is from multiple countries so as to see if there is a consistent relationship, regardless of cultural environment.

Methods and Findings	Using previously collected data, the study compiles international surveys from teachers and principals across 4 countries that have similarly recognized opportunities for professional development including the US, Finland, China, and Singapore. School principals and individual teacher questionnaires were used to compare the data on a teacher specific level and on a whole school basis. Teachers thought of a successful professional development they attended and then answered 4 yes/no questions about it assessing whether or not it was considered “effective” for them. Then they used the other aspects to compare these findings with- such as seniority, motivation, location, perception of school and self. Then, the study compared the data on multiple levels: it compared the countries’ principal’s responses, the countries’ teacher’s responses, and the teacher’s and principal’s responses to analyze the data and find meaningful connections between their responses and effective teacher professional development. The study found that there were significant findings between self-perception of teachers in the stated areas and the effectiveness of teacher professional development, and encouraged schools to use the data to support continuing to motivate teachers in their jobs so that they continue to experience more effective professional development.
Why you chose this article	I was interested in this article due to its crosscultural nature. I think that by only looking at professional development opportunities/studies in the US, it would limit the valuable findings and differences that this study addresses when it comes to considering professional development. I also was interested in the comparison on a school and individual teacher level, and found that it was valuable to see the data mostly match in significance of the findings. I think looking at these social factors is important when considering if professional development was effective, because learning is personal for everyone and this gives valuable comparisons between qualitatively- yet numerically measurable- data.

Critical Reflection	The three authors of this article are from China, working at a Chinese university. The study, while it does include data from other countries, largely focuses on educational implications within and for the advancement of education in China.
Article 3	Annotations
APA Citation	Coppe, T., Parmentier, M., Kelchtermans, G., Raemdonck, I., Marz, V., Colognesi, S. (2024). Beyond traditional narratives about teacher professional development: A critical perspective on teachers' working life. <i>Teaching and Teacher Education</i> Vol. 139, March 2024, 104436.
Purpose of the study	The purpose of this study was to situate professional development within the career context of individual teachers. The researchers argue that professional development needs of teachers change as they gain experience in their field and progress in their knowledge due to experience and prior professional development. The study seeks to "resituate" how we group teachers for professional development, using qualitative data to support their overall theory.
Research Questions	The study tries to identify patterns in four categories across their career cycle related to relationships between colleagues, teaching tasks, teaching context/climate, and the organizational work they do over their careers as early, mid, or late career distinctions. The study then seeks to draw comparisons and contrast these findings against the career timeline outlined to draw conclusions from.
Methods and Findings	Researchers first categorized teachers into early career (1-5 yrs), Mid career (8-15 yrs), and late career (20+ yrs)-intentionally making large gaps between years of service. Then, using the likert scale teachers of varying experience

	and grade level population answered surveys about their work socialization- the four ideas listed in the first research question above. It included twenty questions and was consistent among each dimension described. Then, they tested the study for fit and found it suitable using a comparative fit index and the Tucker Lewis Index. Then they took a measure of teacher understanding the different career time subgroups. After having participants (over 1,000 in the sample size) answer the questionnaire, they used statistical comparison to compare and contrast early, mid, and late stage teachers and their work socialization responses. They found early and late stage educators to be similar in many responses, and drew that the need for development was not isolated to early stage educators. They also drew that development is not linear and can not be looked at as such by categorizing or “grouping” educators by stage when they participate in professional development.
Why you chose this article	I found this study particularly interesting due to its argumentative nature, but also the content being situated within career stages. I find the study to be accurate with my own experience in education, but think it could be useful for refuting experience based professional development groupings, or furthering this study with my own research question edited.
Critical Reflections	The main researcher of this article is a white, european male that has been invested in educational research over several years. This is one of his 15 papers on educational research. He is faculty of a university in the Netherlands. Nearly all of this research collaborations have been in europe, with only 2 being outside of europe located in Canada. The second researcher is also a white male with an extensive background in educational research. The last authors on the paper are women, with the men coming before them in terms of opportunity to contribute to the paper.

Article 4	Annotations
APA Citation	Chiyaka, E., Kibirige, J., Sithole, A., McCarthy, P., Mupinga, D. (2017). Comparative Analysis of Participation of Teachers of STEM and Non-STEM Subjects in Professional Development. <i>Journal of Education and Training Studies Vol.5, No. 9</i> , September 2017. ISSN 2324805X.
Purpose of the study	The purpose of this study was to see if there was a difference between levels of attendance/engagement between teachers who teach in STEM fields and those who do not. It also analyzed perceived barriers to professional development opportunities between STEM and non-STEM educators.
Research Questions	The question addressed in this study was whether or not there was a significance in perceived and actual participation in professional development by educators in STEM fields and those in other fields.
Methods and Findings	The study used the TALIS (Teaching and Learning International Survey) data that is collected among a large portion of countries. It used over 30 countries data, excluding those that had missing data in the areas of study (professional development). Compiling that data and then using statistical analysis (bivariate) to compare data given by teachers in STEM fields and non STEM fields. The questionnaire data included field, experience, grade level, professional development opportunities participated in. Several findings were able to be drawn by comparing the data in the TALIS base. It was found that there was no significance between attendance of professional development between STEM and non STEM educators. It found a difference in perceived barriers to continued professional development, non STEM educators were more likely to respond they did not have certain prerequisites to certain PD

	opportunities. STEM educators were more likely not to have formal teaching instruction (teacher prep programs).
Why you chose this article	I chose this article because I found the qualitative perceptual findings interesting in their differences. Some non STEM educators believe there are more barriers to certain professional development opportunities which could impact motivation during STEM related professional development opportunities and their effectiveness, which is related to my main topic.
Critical Reflections	This study seems to be funded by the Department of Education in the U.S. with a sole focus on secondary education. The study does not include elementary level teachers, even though it could by using teachers' main degrees being considered STEM or NON-STEM. I think this limits the overall data and trustworthiness of this particular study. This was the first study in my bibliography to have a black man as the primary author.

Article 5	Annotations
APA Citation	Powers, K., Seon-Hi, S., Hagans, K., Cordova, M. (2015). <i>The Impact of a Teacher Professional Development Program on Student Engagement. International Journal of School & Educational Psychology</i> , 3:4, 231-240.
Purpose of the study	The purpose of this study was to see if participation in a specific program of teacher development given in a class like format, was impactful in student engagement in writing.

Research Questions	Does participation in the program lead to increased perceived student engagement in writing
Methods and Findings	Using a survey of teachers and students who participated and did not participate in the training program, they collected qualitative data on student engagement from the participants and the control group. They had a response rate of 79% and a sample size of around 433 students that they surveyed. The demographics were analyzed due to their previously known impact on engagement from other studies. They compared disability separately from race demographics. Using a likert scale and an adapted version of Appleton and Christianson's Student Engagement Scale to gather their data, researchers found that students reported higher grades and higher levels of engagement when their teachers attended the PD. This confirmed their hypothesis that the teacher's professional development in question would have a significant student engagement impact regardless of race and disability.
Why you chose this article	I chose this article because it was directly tied to both student engagement and to professional development. This study was on a popular professional development adopted by many districts around the country and continues to be a popular teacher PD today.
Critical Reflections	This study's main author, Kristen Powers, works at the University of California. She is a white female, and worked on the paper with someone from a university in China and another female colleague at UC. The paper has over 750 citations and 33,000 reads total, making it a popular study in educational research on professional development.

Article 6	Annotations
APA Citation	Osborne, J. F., Borko, H., Fishman, E., et. al. (2019). Impacts of a Practice Based Professional Development Program on Elementary Teachers' Facilitation of and Student Engagement with Scientific Argumentation. <i>American Educational Research Journal</i> . Vol. 56, Issue 4.
Purpose of the study	The purpose of this study is to essentially "practice what we preach" as it relates to teaching teachers, and teaching students. When we teach students, we focus on deliberate guided opportunities for practice. When we teach teachers, we generally just lecture them and expect it to make an impact. This study sought to implement opportunities for guided practice of learned skills so that they were more easily implemented in classrooms. For two weeks, teachers were "coached" on argumentation and teaching it to their students. Then there was follow up after the skill for reflection and further learning.
Research Questions	Do teachers participate in PD about teaching kids to debate? Do teachers that participate in scientific debate practice have an impact on student engagement? Does the format of the PD impact teacher use and student science debate skill? Do science debate skills enhance student learning?
Methods and Findings	The study used a quasi-experimental design which looked at multiple factors to see whether strong relationships between the research questions and the data could be drawn. Using Western U.S. based schools with a high number of English Language Learners, schools were selected and teachers were divided randomly into 3 different groups (A, B, and C). Group A participated in a 1 week summer learning program about science debate skills for students in science. Group B

	participated in the summer course and also had a coaching element in their school day. Group C had nothing and was the control. The study found that while the group that attended the summer institute (A) showed higher science achievement scores, there was no real difference in student success between groups A and B. There was a difference between A/B and C though, as both A and B showed better scores than C. Teacher debate had no impact on student achievement though, and students who had debate skills showed higher achievement than those who had teachers with debate skill. This last revelation still is a bit confusing for me.
Why you chose this article	I chose this article because I found the relationships between different formats and goals for the professional development study to be related to my overall interest in formats of PD and their overall outcomes. I found it useful to know that the skills the students learned were more useful than the skills the teachers developed.
Critical Reflections	Johnathon Osborne, the main author of this study is an older white man that works at Stanford. He focuses on science education and pedagogy in his work at Stanford, and worked on the overall study of argumentation found in this article with Mark Wilson from UC Berkeley. Mark is another white Male in a high position of power at his university though he was not listed in this journal, it seems a lot of the original ideas for this study came from their work together.

Article 7	Annotations
APA Citation	Johnson, C., Kahle, J.B., Fargo, J.D. (2007). A Study of the Effect of Sustained, Whole-school Professional Development on Student Achievement in Science. <i>Journal of Research in Science Teaching</i>. Aug 2007 44(6):775-786.

Purpose of the study	This study sought to find out the effectiveness of a 2 week seminar professional development with follow up sessions on student success in science over a 3 year period. The study wanted to support this format of continued professional development in closing achievement gaps in science education.
Research Questions	The research question that was investigated is whether or not sustained professional development over a 3 year course in science had an impact on overall science achievement for students in similar urban areas.
Methods and Findings	This study is also a quasi-experimental study where schools that participated in the training program are compared to schools that have not as a control. The schools chosen to be compared were similar in demographics and size. They analyzed student test score data to draw comparisons and correlations. They found that there was no significant difference between schools that had professional development in science in the first year, but then a significant difference in overall scores in years 2 and 3 between schools that participated in the sustained science professional development and the schools that did not.
Why you chose this article	I chose this article because again, it focused on the format of professional development and long term impacts of continued professional development. Skills take time to develop for teachers and students, and with a consistent emphasis and educational path, there was actually a significant outcome in the data of this study.
Critical Reflections	Two white women are the primary authors of this study, with another white male being a supporting author. All three contributors are from different states, which is different from many of the studies I've read so far, as many of them have other author's from the same universities and states as the primary authors.

Article 8	Annotations
APA Citation	Shaha, S., Ellsworth, H. (2013). Predictors of Success for Professional Development: Linking Student Achievement to School and Educator Successes through On-Demand, Online Professional Learning. <i>Journal of Instructional Psychology Vol. 40 Iss. 1.</i> 19-26.
Purpose of the study	The purpose of this study was to prove that online professional development available to teachers on demand and teacher use and engagement in these has a significant outcome on student achievement scores and can be linked to student success and teacher achievement.
Research Questions	The main two questions this study sought to answer were if teacher participation and engagement led to higher student and achievement and if this then led to lower overall dropout rates in highschool. They were also concerned about how participation alone or in groups impacted teacher engagement in PD overall as a secondary study.
Methods and Findings	This study included over 700 schools in 39 states, offering on demand online professional learning to some and comparing those student assessment scores to previous years' scores before participating in professional development. They used qualitative measures such as minutes of use of the professional development software, screen engagement, and then student scores to compare before and after PD student success. They found that an increase of professional development among teachers led to an increase in student scores. The more professional development teachers engaged in, the higher the student scores averaged. Teacher engagement had a significant impact on student success.
Why you chose this article	I chose this article for it's emphasis on student engagement and its very large sample size. Many of the studies looked at a few schools in an area, or big urban schools, but I think this data is more trustworthy being such a large sample to see the comparisons clearly with. It is related to format and

	engagement of PD as well as overall impact on student achievement, which align with my overall research questions and intentions.
Critical Reflections	If I have the right person, it seems this popular research is leftover from Steven Shaha's time as a professor at a university, before becoming a CEO. He has lectured at Harvard, UCB, and Stanford for his research in education and public policy. He is a white male who from his LinkedIn, has always been in a position of power as seen from his various jobs and educational attainment with several PhDs.

Article 9	Annotations
APA Citation	Wallace, M. (2009). Making Sense of the Links: Professional Development, Teacher Practices, and Student Achievement. <i>Teachers College Record</i> . Vol. 111 Iss. 2 Feb. 2009.
Purpose of the study	The purpose of this study was to analyze the impact of professional development on teaching practices and overall student development. The study sought to compare the impacts of PD on <i>both</i> aspects of teaching and learning.
Research Questions	What are the impacts of professional development on teachers (at both a state and national level)? What are the impacts of professional development on student success (at both a state and national level)?

Methods and Findings	This was a qualitative study using already gathered national and state level data on around 1500 teachers and 6000 students. The study focused on both math and reading achievement to compare data, as reading and math are different practices with different cultural impacts. By analyzing more than one subject, the data should be less confounded by the differences between reading and mathematics instructional practice. Using Structural Equation Models, the study uses the data collected to draw comparisons on small and then larger scales and found that there was a significant impact on teacher practice when professional development occurred. Student success varied but had some significance particularly in mathematics instruction compared to reading instruction.
Why you chose this article	I chose this study because it was very in depth with the level of data it collected and used to drawn conclusions. The research was very thorough in the way it used SEM to compare data and find significance (or lack of). I also felt that the overall topic of linking PD not only to student achievement but actual teacher practice was an interesting concept to be explored.
Critical Reflections	Marjorie Wallace (also known as “Marcy”) was the former director for the institute of teaching and learning at my alma mater, Michigan State Univeristy. The bulk of her research interests are in educational attainment and science and math motivations for learning and higher educational attainment and success. She still supports the department, and several of her works are considered pivotal as noted by citations from other papers and people.

Article 10	Annotations
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APA Citation	Shaha, S. Glassett, K., Ellsworth, H. (2015). Long-Term Impact of On Demand Professional Development on Student Performance: A Longitudinal and Multi-State Study. <i>Journal of International Educational Research</i> . 2015 11(1):29-34.
Purpose of the study	The main purpose of this study was to see if continued participation in online on demand professional development had an increasing impact on student success over time.
Research Questions	The question they sought to answer was whether or not consistent, continued online professional development for teachers would have a continued, consistent impact on student achievement over 12 years.
Methods and Findings	Using student achievement data from 25 schools over the period of two, three, four, and five years, and more up to 12 years. Then, they compared changes in student achievement to years participated in on demand online professional development to draw conclusions. They found that the longer teachers participated in on demand professional learning, the higher student scores rose in both reading and in math. In reading, the percentage of growth among students over doubled between year 5 and year 12 of participation. In math, this took less time to show with 6 percent growth in just 5 years of participation compared to around 2.5 percent growth for 2 years of participation in online PD.
Why you chose this article	I again, found the size of this data being used very interesting as well as the format of the PD studied being virtual. This is yet another quasi-experimental study, but it is the longest one I've found, going over 10 years long in data collection to draw comparisons from. I found that it again supports the idea that increased, consistent teacher PD supports student achievement long term which is my main research interest.

Critical Reflections	Again, If I have the right person, it seems this popular research is leftover from Steven Shaha's time as a professor at a university, before becoming a CEO. He has lectured at Harvard, UCB, and Stanford for his research in education and public policy. He is a white male who from his LinkdIn, has always been in a position of power as seen from his various jobs and educational attainment with several PhDs. It also seems his research is very relied upon and taken as trustworthy, as it's cited frequently in other works (even in other works on my own bibliography).
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Citation Reflection Activity - I found looking through these main researchers to be very interesting. I found it disappointing to see no black female authors show up in my bibliography. I think this matches with the societal representation and oppression that we see in research, education, and literally every other place where people can hold power. I look forward to supporting my colleagues in disrupting this norm. I am surprised by the amount of white men in educational research, when mainly teachers are known to be majority white women. This is another difference that feels large and unequal in education and research currently. I enjoyed bringing awareness to these issues through this activity. Thank you MSU.

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