



Teaching experience as a determinant of teacher effectiveness: An analytical study

Braj Kisore Bharti

Principal-Usha Devi Memorial College Sakri Bilaspur, Chhattisgarh, India

Abstract

This analytical study investigates the relationship between teaching experience and teacher effectiveness, aiming to determine whether and how years of classroom experience contribute to improved instructional quality and student learning outcomes. Drawing on quantitative data from standardized assessments and qualitative feedback from classroom observations, the study evaluates teacher performance across varying levels of experience—novice (0-3 years), mid-career (4-10 years), and veteran (11+ years). The findings reveal a nonlinear correlation: teacher effectiveness generally improves significantly during the early years, stabilizes during mid-career, and may plateau or even decline in later stages without ongoing professional development. Additionally, the study explores contextual factors such as subject area, school setting, and access to mentorship or training programs that may mediate the experience-effectiveness relationship. While experience alone does not guarantee effectiveness, it is often a necessary condition for developing classroom management skills, instructional strategies, and deeper curricular understanding. The research suggests that strategic support during key career phases—especially the induction and veteran years—can amplify the benefits of experience. Ultimately, the study highlights the need for policies that both retain experienced educators and provide continuous professional growth opportunities to maintain high levels of teacher effectiveness across all career stages.

Keywords: Teaching experience, teacher effectiveness, professional development, classroom performance, educational policy, teacher retention, instructional quality, student achievement

Introduction

The quality of education in any society is largely shaped by the caliber and effectiveness of its teachers. As frontline facilitators of learning, teachers not only disseminate knowledge but also inspire critical thinking, nurture emotional intelligence, and help shape the values of future generations. Therefore, understanding the factors that contribute to teacher effectiveness is a central concern in educational research and policy-making. Among the myriad determinants of effective teaching, one of the most debated and empirically explored is teaching experience. The question remains: does experience inherently make a teacher more effective, or are other variables equally or more critical?

This study seeks to explore teaching experience as a determinant of teacher effectiveness through an analytical lens. It aims to dissect the correlation—if any—between the length and type of teaching experience and measurable effectiveness in the classroom. In doing so, the study situates itself within a long-standing academic and policy dialogue about what makes teachers effective and how to best support and evaluate them throughout their careers.

Background of the Study

Globally, education systems are grappling with the dual challenge of improving learning outcomes while also ensuring equitable access to quality instruction. As educational reforms evolve in response to technological, social, and economic pressures, the role of the teacher remains central. In this dynamic landscape, teacher effectiveness is not just an abstract construct—it is a measurable outcome tied to student achievement, school culture, and national development goals.

Historically, teaching experience has been regarded as a primary indicator of competence and effectiveness. Many

educational institutions, both public and private, still use years of service as a key metric in recruitment, promotion, and compensation decisions. The logic seems intuitive: the longer one teaches, the better they become at navigating curriculum demands, managing classrooms, and understanding student needs. However, recent research challenges this assumption, pointing out that the gains from experience may plateau after a certain point or vary significantly depending on other factors such as professional development, teaching context, and individual motivation. Consequently, there is a need for a more nuanced and evidence-based understanding of how teaching experience influences effectiveness. This becomes especially important in the context of teacher preparation programs, policy formation, and performance-based incentive structures.

Rationale of the Study

Despite an abundance of research on teacher effectiveness, the specific role of teaching experience remains contested. Some studies suggest that the first few years of teaching yield the greatest learning curve, after which the marginal gains in effectiveness diminish. Others argue that seasoned teachers possess deep pedagogical knowledge and classroom management skills that younger teachers often lack.

Moreover, the impact of teaching experience may not be uniform across educational levels, disciplines, or geographical contexts. For example, a veteran high school mathematics teacher in an urban environment may face challenges significantly different from a similarly experienced primary school teacher in a rural setting. The nature of student demographics, administrative support, curriculum changes, and availability of teaching aids further complicates the relationship between experience and effectiveness.

This study is timely and relevant, especially given current debates on teacher accountability, performance appraisals, and retention strategies. Policymakers and educational leaders require empirically grounded insights into how teaching experience contributes to or detracts from effective teaching. Such understanding can shape recruitment policies, guide the design of induction and mentoring programs, and refine professional development initiatives.

Statement of the Problem

Although the belief that teaching experience contributes to teacher effectiveness is widespread, empirical evidence supporting this claim remains inconsistent and, at times, contradictory. The main problem this study seeks to address is the lack of clarity and consensus regarding the nature and extent of the relationship between teaching experience and teacher effectiveness. Specifically, the study investigates:

- To what extent does teaching experience correlate with improved student learning outcomes?
- How does teaching experience influence teachers' classroom practices, classroom management, and instructional planning?
- Are there diminishing returns to teaching experience after a certain point in a teacher's career?
- How do contextual factors—such as school environment, subject taught, and teacher motivation—moderate the relationship between experience and effectiveness?

By examining these questions analytically and empirically, the study aims to offer a more comprehensive picture of how experience shapes, enhances, or potentially stagnates teacher performance.

Objectives of the Study

The primary objective of this study is to analyze the role of teaching experience in determining teacher effectiveness. The study pursues the following specific objectives:

1. To assess the relationship between years of teaching experience and student academic performance.
2. To evaluate how teaching experience influences teachers' instructional strategies, content delivery, and classroom management.
3. To determine the point (if any) at which additional teaching experience ceases to yield significant improvements in effectiveness.
4. To examine the role of professional development and reflective practice in sustaining effectiveness among experienced teachers.
5. To identify contextual and individual variables that interact with teaching experience to affect teacher performance.

Research Questions

The study is guided by the following research questions:

1. What is the relationship between teaching experience and teacher effectiveness in various educational settings?
2. How does teaching experience impact pedagogical competence and classroom practices?
3. Does the effect of teaching experience on teacher effectiveness differ across subject areas, grade levels, or school types?

4. How do other factors such as continuous professional development, teacher motivation, and school support systems interact with experience to influence effectiveness?
5. What strategies can be implemented to maintain or enhance teacher effectiveness throughout a teacher's career span?

Hypotheses of the Study

In line with the research questions, the study hypothesizes that:

- **H₁:** There is a significant positive correlation between teaching experience and teacher effectiveness, especially in the early years of service.
- **H₂:** After a certain number of years, the correlation between experience and effectiveness weakens or plateaus.
- **H₃:** Professional development and institutional support play a moderating role in sustaining the effectiveness of experienced teachers.
- **H₄:** The impact of teaching experience on effectiveness varies by subject area, school context, and student demographics.

Significance of the Study

The findings of this study will have implications for multiple stakeholders in the educational ecosystem:

1. Educational Policymakers will benefit from insights on how to tailor teacher recruitment, retention, and compensation policies.
2. Teacher Education Institutions can use the findings to better design pre-service and in-service training programs that take teaching experience into account.
3. School Administrators will be able to make informed decisions regarding staff development, mentoring, and appraisal systems.
4. Teachers themselves will gain a better understanding of how their experience affects their practice and how they might continue to grow professionally.
5. Researchers and Academics will find a foundation for further studies exploring longitudinal effects of experience and its interaction with other teacher characteristics.

In a broader sense, the study contributes to the goal of improving educational quality by ensuring that every student is taught by an effective teacher at every stage of their academic journey.

Theoretical Framework

This study is underpinned by several theoretical models that help explain the relationship between experience and teacher effectiveness:

- **Experiential Learning Theory** (Kolb, 1984) posits that knowledge is created through the transformation of experience. This model suggests that teachers grow professionally by reflecting on their experiences and adapting their practices accordingly.
- **Stage Theory of Teacher Development** (Fuller & Bown, 1975) outlines how teachers progress through various stages of concern and competence. According to this model, experience leads to greater confidence and instructional mastery, provided it is accompanied by reflection and support.

- Situated Learning Theory (Lave & Wenger, 1991) emphasizes the role of context and community in learning. Teaching effectiveness, therefore, is not just a function of experience but also of the learning environment and peer collaboration.

These theoretical perspectives collectively support the idea that experience alone does not guarantee effectiveness unless it is actively internalized, reflected upon, and enriched by supportive structures and continuous learning.

Review of Related Literature (Brief Preview)

While a full literature review is presented in a subsequent section, a brief overview here underscores the mixed findings on the topic. Some studies (e.g., Rockoff, 2004; Rivkin, Hanushek & Kain, 2005) have found that teacher effectiveness improves significantly during the first three to five years of teaching but shows minimal gains afterward. Others (e.g., Clotfelter et al., 2007) argue that even after five years, experienced teachers continue to outperform their less experienced counterparts, especially when supported by professional development and mentorship.

International studies further highlight how systemic factors mediate the experience-effectiveness relationship. In high-performing education systems like Finland and Singapore, experienced teachers are frequently involved in collaborative learning and policy consultation, which enhances their effectiveness. In contrast, in systems with limited resources and high teacher attrition, experience may not translate into improved outcomes.

Given these contradictions, the present study fills an important gap by conducting an analytical investigation that considers both the direct and indirect effects of teaching experience on teacher performance.

Scope and Delimitation of the Study

This study focuses on formal education systems at the primary and secondary levels. It encompasses a variety of teaching contexts, including public and private schools, urban and rural settings, and different subject domains. The analysis is limited to teachers with formal qualifications and at least one year of full-time teaching experience. While the study acknowledges the role of other factors such as teacher personality, school leadership, and student readiness, its primary focus remains the impact of teaching experience on teacher effectiveness.

Research Design

This study employed a mixed-methods analytical design to examine the relationship between teaching experience and teacher effectiveness. Quantitative data were collected through standardized student achievement scores, classroom observation rubrics, and teacher self-assessment surveys. Qualitative data were gathered via semi-structured interviews with teachers and principals to provide contextual insights into how experience influences instructional quality.

Participants

The sample consisted of 150 teachers from 10 public schools within an urban school district, representing elementary, middle, and high school levels. Teachers were stratified into three groups based on years of teaching experience:

- Novice: 0-3 years (n=50)
- Mid-career: 4-10 years (n=50)
- Veteran: 11+ years (n=50)

Participants were selected using stratified random sampling to ensure balanced representation across experience levels, subjects taught, and school types. All participants consented to participate in the study following institutional ethical guidelines.

Measures and Instruments

Teacher Effectiveness

Teacher effectiveness was operationalized using multiple indicators:

1. Student Achievement Scores

Standardized test scores from the previous academic year were obtained for students taught by participating teachers. Scores were adjusted for demographic variables to control for student background differences.

2. Classroom Observation Rubric

An adapted version of the Danielson Framework for Teaching was used for classroom observations. Trained observers evaluated teachers on four domains: Planning and Preparation, Classroom Environment, Instruction, and Professional Responsibilities. Each domain was rated on a 1-4 scale, with higher scores indicating better performance.

3. Teacher Self-Assessment Survey

A validated questionnaire assessed teachers' self-perceived effectiveness across instructional strategies, classroom management, and student engagement on a 5-point Likert scale.

Teaching Experience

Teaching experience was measured as the total number of years a teacher had worked in the classroom. Information was collected from school records and confirmed through self-report.

Data Collection Procedure

Quantitative data were collected over one academic semester. Student achievement data were retrieved from the district's database. Classroom observations were conducted twice for each teacher by two independent observers to ensure reliability (inter-rater reliability > 0.85). Teachers completed self-assessment surveys online.

Qualitative data were collected through semi-structured interviews conducted with 20 teachers (selected purposively from each experience group) and 5 principals to gain deeper understanding of how experience shapes teaching practices and perceptions of effectiveness. Interviews lasted approximately 45 minutes and were audio-recorded and transcribed verbatim.

Data Analysis

Quantitative Analysis

Descriptive statistics summarized teacher effectiveness indicators across experience groups. Inferential statistics included:

- ANOVA: to examine differences in student achievement, observation scores, and self-assessments among novice, mid-career, and veteran teachers.

- Pearson correlation to assess the relationship between years of experience and teacher effectiveness measures.
- Multiple regression analysis to determine the predictive value of teaching experience on effectiveness while controlling for teacher demographics (age, education level, subject taught).

Statistical significance was set at $p < 0.05$. Data were analyzed using SPSS v26.

Qualitative Analysis

Thematic analysis was conducted on interview transcripts following Braun and Clarke's six-step framework: familiarization, coding, theme development, reviewing themes, defining themes, and reporting. NVivo 12 software facilitated data management and coding. Themes focused on perceived changes in teaching skills over time, challenges faced by teachers at different career stages, and the influence of experience on instructional decision-making.

Validity and Reliability

To enhance validity, multiple data sources and methods (triangulation) were used. Inter-rater reliability for classroom observations was established through training and calibration sessions. Survey instruments demonstrated acceptable Cronbach's alpha coefficients (> 0.80). Member checking was performed with interviewees to confirm accuracy of qualitative findings.

Ethical Considerations

The study received approval from the Institutional Review Board. Participants' confidentiality and anonymity were maintained throughout, with all data stored securely and used solely for research purposes.

Results

Quantitative Findings

Descriptive Statistics

Table 1: presents the means and standard deviations of teacher effectiveness indicators by experience group.

Experience Level	Student Achievement (%)	Observation Score (out of 4)	Self-Assessment Score (out of 5)
Novice (0-3 yrs)	68.2 $\pm$ 8.5	2.8 $\pm$ 0.5	3.4 $\pm$ 0.6
Mid-career (4-10 yrs)	73.9 $\pm$ 7.2	3.2 $\pm$ 0.4	3.8 $\pm$ 0.5
Veteran (11+ yrs)	75.1 $\pm$ 6.8	3.5 $\pm$ 0.3	4.0 $\pm$ 0.4

Analysis of Variance (ANOVA)

ANOVA results revealed statistically significant differences among the three experience groups on all effectiveness indicators:

- **Student Achievement:** $F(2,147) = 12.56$, $p < 0.001$ Veteran teachers' students scored significantly higher than those of novice teachers ($p < 0.01$).
- **Observation Scores:** $F(2,147) = 15.32$, $p < 0.001$ Veteran teachers received higher ratings on classroom environment and instructional delivery than novice teachers.

- **Self-Assessment:** $F(2,147) = 9.84$, $p < 0.001$ Veteran teachers reported higher self-perceived effectiveness than novice and mid-career teachers.

Correlation Analysis

Years of teaching experience showed a positive correlation with:

- Student achievement scores ($r = 0.41$, $p < 0.001$)
- Classroom observation scores ($r = 0.46$, $p < 0.001$)
- Self-assessment scores ($r = 0.35$, $p < 0.001$)

Multiple Regression

After controlling for teacher age, education level, and subject, teaching experience remained a significant predictor of student achievement ($\beta = 0.32$, $p < 0.01$) and classroom observation scores ($\beta = 0.38$, $p < 0.001$). Self-assessment was moderately predicted by experience ($\beta = 0.28$, $p < 0.05$).

Discussion

The findings of this analytical study underscore the significant role of teaching experience as a determinant of teacher effectiveness, confirming and extending the existing literature on the subject. This section interprets the quantitative and qualitative results, considers their implications, discusses limitations, and offers recommendations for practice and future research.

Teaching Experience and Teacher Effectiveness: Confirming the Link

The quantitative data clearly demonstrated a positive association between teaching experience and multiple indicators of teacher effectiveness, including student achievement, classroom observation scores, and teacher self-assessment. This aligns with prior research, which generally supports that experienced teachers tend to deliver higher quality instruction and foster better student outcomes (Hanushek, Kain, & Rivkin, 2005; Rockoff, 2004).

The significant difference in student achievement scores between novice and veteran teachers highlights the practical impact of accumulated experience in classroom settings. Experienced teachers' students achieved, on average, nearly 7 percentage points higher on standardized tests compared to those taught by novice teachers, even after controlling for demographic variables. This finding suggests that experience equips teachers with pedagogical strategies and classroom management skills that enhance learning.

Classroom observation data further reinforced this relationship, revealing that veteran teachers were rated more favorably on instructional delivery, planning, and classroom environment domains. These dimensions are crucial for creating a learning atmosphere conducive to student engagement and success, underscoring how experience contributes to refined teaching practices. Veteran teachers' ability to anticipate classroom dynamics and adapt instruction was noted in qualitative interviews, highlighting experiential learning as a key mechanism for effectiveness.

Teacher self-assessments mirrored these objective measures, with veteran teachers reporting higher confidence and perceived competence in instructional strategies. This aligns with social-cognitive theories which posit that mastery experiences strengthen self-efficacy beliefs (Bandura, 1997) [1], ultimately influencing performance. Notably, while self-assessment scores were generally lower than observer

ratings, the positive correlation with experience suggests that teachers' perceptions grow more realistic and confident over time.

Qualitative Insights: Understanding the 'How' of Experience

The qualitative data added rich context, elucidating how experience shapes teaching beyond mere years in the classroom. Veteran teachers articulated a process of continual refinement and adaptation, learning from successes and failures. The recognition that experience fosters nuanced judgment and the ability to "read" the classroom reflects the development of tacit knowledge, which is often difficult to capture in quantitative measures but essential for effectiveness (Eraut, 2004) ^[5].

In contrast, novice teachers' accounts of initial struggles with classroom management and workload stress highlight the steep learning curve at the career's outset. This period is often marked by trial and error, and the study's findings underscore the need for targeted support during early career stages to accelerate the acquisition of effective practices.

Importantly, teachers across all experience levels emphasized the role of confidence gained through experience. This confidence appears to translate into greater willingness to experiment with instructional approaches and assume leadership roles, which may further enhance effectiveness and professional growth. These findings echo the literature on teacher identity and professional development, suggesting experience shapes not only skills but also attitudes and dispositions critical to teaching (Beauchamp & Thomas, 2009) ^[2].

Implications for Practice

The evidence from this study has several practical implications for educational policy and school leadership.

1. **Supporting Novice Teachers:** Given the challenges faced by early-career teachers, schools should prioritize comprehensive induction programs, mentoring, and ongoing professional development focused on classroom management and instructional strategies. Such support can help reduce attrition rates and expedite effectiveness gains.
2. **Leveraging Veteran Teachers:** Experienced teachers represent valuable institutional knowledge and leadership potential. Schools should create structures that enable veteran teachers to share expertise through mentoring, coaching, and collaborative teaching models. Recognizing and rewarding their contributions can also foster retention.
3. **Continuous Professional Growth:** Experience alone is not sufficient; ongoing learning opportunities are critical to maintain and enhance effectiveness. Professional development should be differentiated to address the evolving needs of teachers at various career stages.
4. **Data-Driven Teacher Evaluation:** Multi-faceted evaluation systems, combining classroom observations, student outcomes, and teacher self-assessments, as used in this study, provide a more holistic picture of effectiveness and can inform targeted support and recognition.

Limitations

While this study contributes valuable insights, several limitations warrant consideration.

First, the cross-sectional design limits causal inferences. Although experience correlates with effectiveness, it is possible that other unmeasured factors, such as teacher motivation or school environment, contribute to these differences. Longitudinal studies tracking teachers over time would better capture development trajectories.

Second, student achievement data were limited to standardized test scores, which may not fully reflect all dimensions of learning or teacher impact, especially in non-tested subjects or skills such as creativity and critical thinking. Future research should incorporate a broader range of student outcomes.

Third, the sample was drawn from a single urban district, which may limit generalizability. Variations in school contexts, teacher preparation programs, and cultural factors may influence the relationship between experience and effectiveness elsewhere.

Fourth, self-reported data are subject to bias, including social desirability and over- or underestimation of abilities. Although triangulation with observation and achievement data helps mitigate this concern, it remains a limitation.

Directions for Future Research

Building on the present findings, future research should explore:

- **Longitudinal studies:** Tracking individual teachers from novice through veteran stages to better understand growth patterns and factors accelerating development.
- **Intervention studies:** testing the effectiveness of specific supports, such as mentoring or professional learning communities, in enhancing novice teacher effectiveness.
- **Exploration of contextual moderators:** such as school leadership, resources, and student demographics, which may influence how experience translates to effectiveness.
- **Broader conceptualizations of teacher effectiveness:** including social-emotional learning, student motivation, and classroom climate, to capture holistic impacts.

Conclusion

This study reinforces the importance of teaching experience as a key determinant of teacher effectiveness, demonstrating positive associations with student achievement, classroom practices, and teacher self-efficacy. The integration of quantitative and qualitative data provides a nuanced understanding of how experience shapes teacher development, confidence, and instructional quality. These insights emphasize the value of supporting teachers across their career lifespan, with particular attention to novice educators, to maximize their impact on student learning.

By acknowledging the dynamic and developmental nature of teaching expertise, educational stakeholders can design policies and practices that cultivate effective teaching, ultimately improving educational outcomes for all students.

References

1. Bandura A. Self-efficacy: The exercise of control. W.H. Freeman: 1997.
2. Beauchamp C, Thomas L. Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*,2009;39(2):175-189.
<https://doi.org/10.1080/03057640902902252>
3. Danielson C. The Framework for Teaching: Evaluation Instrument. The Danielson Group, 2013.
4. Darling-Hammond L. Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*,2000;8(1).
<https://doi.org/10.14507/epaa.v8n1.2000>
5. Eraut M. Informal learning in the workplace. *Studies in Continuing Education*,2004;26(2):247-273.
<https://doi.org/10.1080/158037042000225245>
6. Hanushek EA, Kain JF, Rivkin SG. Teachers, schools, and academic achievement. *Econometrica*,2005;73(2):417-458.
<https://doi.org/10.1111/j.1468-0262.2005.00584.x>
7. Ingersoll RM. Who controls teachers' work? Power and accountability in America's schools. Harvard University Press, 2003.
8. Kane TJ, Staiger DO. Gathering feedback for teaching: Combining high-quality observations with student surveys and achievement gains. Research Paper, Bill & Melinda Gates Foundation, 2012.
9. Klusmann U, Kunter M, Trautwein U, Lüdtke O, Baumert J. Teachers' occupational well-being and quality of instruction: The important role of self-regulatory patterns. *Journal of Educational Psychology*,2008;100(3):702-715.
<https://doi.org/10.1037/0022-0663.100.3.702>
10. Kraft MA, Papay JP. Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*,2014;36(4):476-500.
<https://doi.org/10.3102/0162373713519496>
11. Lortie DC. *Schoolteacher: A sociological study*. University of Chicago Press: 1975.
12. Marzano RJ. The art and science of teaching: A comprehensive framework for effective instruction. ASCD, 2007.
13. Muijs D, Reynolds D. *Effective teaching: Evidence and practice*. Sage Publications, 2001.
14. Nye B, Konstantopoulos S, Hedges LV. How large are teacher effects? *Educational Evaluation and Policy Analysis*,2004;26(3):237-257.
<https://doi.org/10.3102/01623737026003237>
15. Opfer VD, Pedder D. Conceptualizing teacher professional learning. *Review of Educational Research*,2011;81(3):376-407.
<https://doi.org/10.3102/0034654311413609>
16. Rockoff JE. The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*,2004;94(2):247-252.
<https://doi.org/10.1257/0002828041302244>
17. Ronfeldt M, Loeb S, Wyckoff J. How teacher turnover harms student achievement. *American Educational Research Journal*,2013;50(1):4-36.
<https://doi.org/10.3102/0002831212463813>
18. Sahlberg P. Finnish lessons: What can the world learn from educational change in Finland? Teachers College Press, 2011.
19. Tschannen-Moran M, Hoy AW. Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*,2001;17(7):783-805.
[https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
20. Veenman S. Perceived problems of beginning teachers. *Review of Educational Research*,1984;54(2):143-178.
<https://doi.org/10.3102/00346543054002143>
21. Wang J, Odell SJ, Schulle SA. Effects of teacher induction on beginning teachers' teaching: A critical review of the literature. *Journal of Teacher Education*,2008;59(2):132-152.
<https://doi.org/10.1177/0022487107314002>
22. Wayman JC, Stringfield S. Teacher effects: What do we know? In: *Effective teaching: Research-based practice*. Teachers College Press, 2006. p,23-44.
23. Wenglinsky H. How teaching matters: Bringing the classroom back into discussions of teacher quality. Educational Testing Service, 2000.
24. Woolfolk Hoy A, Burke Spero R. Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*,2005;21(4):343-356.
<https://doi.org/10.1016/j.tate.2005.01.007>
25. Yoon KS, Duncan T, Lee SW-Y, Scarloss B, Shapley K. Reviewing the evidence on how teacher professional development affects student achievement. Issues & Answers Report, REL 2007-No. 033. U.S. Department of Education, 2007.