RESEARCH AREA & SOURCE	DESCRIPTION & MAIN FINDINGS/ARGUMENTS
Teaching Strategies / Educational Change / Assessment	**Hayes, D., Mills, M., Christie, P. and Lingard, B. (2006) *Teachers and Schooling Making a Difference: Productive pedagogies, assessment and performance.* Crows Nest : Allen & Unwin** This is a book written using the results of the Queensland School Reform Longitudinal Study (2001), which launched the New Basic program in Queensland. The study began by observing classrooms attempting to determine the pedagogical and assessment practices which correlated with student achievement, then moved on to attempt to determine the school structural characteristics which supported those pedagogies. They distilled 20 elements of what they termed productive pedagogy and grouped them into four dimensions. Some of the major findings as reported in the book are: ● Pedagogy and assessment do make a difference to student achievement, especially for disadvantages students ● The intellectual quality of classroom activities correlated strongly with student academic achievement ● Supportive classroom pedagogies also correlated strongly with student academic achievement ● Connectedness to the world correlated with students academic achievement but not as strongly as intellectual quality or supportive classroom pedagogies ● There was no correlation between valuing difference and academic achievement but this did correlate with significant positive social outcomes. ● A crowded curriculum reduces the latitude for teaching for depth of understanding ● What the study termed as productive pedagogies, assessments and performances were not widely found to be in practice in classrooms ● There was a widespread absence in classrooms of expectations for students to understand other cultural knowledges. ● There was a large disconnect between what teachers reported as their goals for their students' education on surveys and the practices that took place in their classrooms both in pedagogy and assessment ● Students who received intellectually challenging tasks mediated by supportive classroom pedagogies are more likely to remain engaged in learning ● The structural aspects which supported productive pedagogy and assessment were: valuing of teachers and their knowledge and ongoing learning, dispersed leadership across the school, a culture of linking teachers' ongoing learning to the enhancement of student learning, a culture or professional dialog and pedagogically focused leadership. The four dimensions and 20 elements of productive pedagogy were: **Intellectual Quality** - problematic knowledge, higher-order thinking, depth of student understanding, substantive conversation, metalanguage **Connectedness** – connectedness to the world beyond the classroom, knowledge integration, background knowledge, problem-based curriculum **Supportive Classroom Environment** – student direction, explicit quality performance criteria, social support, academic engagement, student self-regulation **Working with and Valuing Difference** – cultural knowledges, active citizenship, narrative, group identities in learning communities, representation
Professional Development	**Poulson, L. & Avramidis, E. (2003) Pathways and possibilities in professional development: Case studies of effective teachers of literacy**

British Educational Research Journal, Vol. 29, No. 4, pp. 543 - 560	A set of case studies analyzing the relationship of professional development to effective teaching of literacy in the UK. **Main Findings:** ● Effective teaching of literacy evolved through the interweaving of different kinds of experience (eg. personal learning, experimentation, course, opportunities to collaborate, being mentored etc.) rather than through specific courses. ● Five contexts of professional development were identified - personal, classroom, school, local authority and regional / national. Each of the five contexts is important. ● Professional learning was often long-term and non-linear. ● Effective teachers were supported across a range of the five contexts and over time to develop coherent personal philosophies to underpin their literacy teaching. ● Reflection plays a central role in professional learning ● Teachers need opportunities to learn but also need challenges and the 'learning space' to handle the challenges constructively (learning space includes stimulation of creative risk-taking, engagement in innovations, recognition and reward of effort, teacher perception of some degree of control over their work) ● Professional learning is considerably enhanced through collaborative organizational cultures within schools. ● Personal learning and collaborative learning exist in a dialectical relationship. ● Opportunities for longer-term collaboration in curriculum projects beyond the school create communities of knowledge that greatly enhance professional learning.
Professional Development *American Educational Research Journal Vol. 38 No. 4 pp. 915 – 945*	**Garet, M. S., Porter, A., Desimone, L., Birman, B. & Yoon, K. (2001) What makes professional development effective? Results from a national sample of teachers.** A large-scale study using regression modelling to examine how components of professional development led to self-reported changes in teachers' knowledge and practice. The research was conducted with Math and Science teachers and the PD investigated was sponsored by the Eisenhower Math and Science Program. **Main Findings:** The following structural components were found to be effective: ● reform orientation (with reform-oriented activities such as teacher study groups being more effective than traditional workshops or college courses). ● duration (both in terms of time span and total contact hours) ● the collective participation of teachers from the same school

	● a focus on content knowledge ● active or inquiry-oriented learning approaches ● a high level of coherence with other activities and with standards in the teachers' local school contexts
Professional Development / Curriculum Implementation *American Educational Research Journal Vol. 44 No. 4 pp. 921 – 958*	**Penuel, W., Fishman, B., Yamaguchi, R. & Gallagher, L. (2007) What makes professional development effective? Strategies that foster curriculum implementation.** Professional development for the implementation of the GLOBE Science Program offered by a number of different providers was investigated and compared with teacher self-reports on implementation measures of the program. The study included data from 454 teachers and 28 professional development providers. **Main Findings:** ● The design elements of PD that mattered most for GLOBE implementation varied according to the aspect of implementation being measured. ● To increase data reporting (data collected by students had to be uploaded to a central website), the most effective strategy was to focus on promoting student inquiry ● To increase the use of the GLOBE classroom protocols and the teachers' feelings of preparedness for student inquiry, the opportunity within the PD to plan who to tailor GLOBE to the local circumstances of teachers' classrooms was significant ● To increase teachers' feelings of preparedness to lead student inquiry (GLOBE is an inquiry-based program), a focus on the content of GLOBE was significant. ● Results in relation to duration of PD were inconclusive. ● Perceived coherence of the PD activities with teachers' own districts' goals for student learning and with their won goals for PD was a strong predictor of use of GLOBE protocols and feelings of preparedness for student inquiry ● Taken together, the pattern of findings were in agreement with general findings about PD (such as those in the Garet el al. study above) but that particular aspects of some programs can make some features of PD more or less important.
Professional Development *Journal of Educational for Students Placed at Risk (JESPAR) Vol. 14, pp. 45 - 71*	**Quick, H., Holtzman, D., Chaney, K. (2009) Professional development and instructional practice: Conceptions and evidence of effectiveness** This study examined two years of continuous professional development activities in the San Diego school district. The researchers asked three questions: (1) What does research say about effective professional development? (2) What did teachers in the school identify as effective features of PD and were these consistent with the research? (3) What features of PD were associated with effective instructional practices (in this case the use of activities related to higher-level meaning of text in literacy instruction)? **Main Findings:** **Effective PD from research:** The research-based Eisenhower model suggests that effective professional development has three core features: 1. *A focus on content / subject-area curriculum* 2. *Active learning* (including such things as observations, collaborative planning, reviewing student work, meaningful discussion, practice, reflection, trying out ideas) 3. *Coherence* - connections with larger goals and connects between PD activities over time. In addition to the core features, the model also has these structural features: 1. *Collective participation* of groups of teachers from the same school / grade level 2. *Form of the activity* – activities set within the school context such as joint planning, coaching, mentoring and in-school study

	groups are referred to as *reform* type activities are are more likely to provide opportunities for active learning and coherence than external workshops or courses. 3. *Duration of the activity* – extended periods of time are recommended to allow for discussion and active learning **Teacher perceptions of effective PD:** Teachers in the San Diego reform project identified five characteristics as being fundamental to their conception of effective PD: 1. Provides time for collaboration within grade levels or across grade levels 2. Provides opportunities for modeling, practice and feedback 3. Is based on the needs of teachers 4. Is provided in a safe, trusting environment 5. Is connected to broader school goals and to other professional learning opportunities These connected fairly loosely with the characteristics included in the Eisenhower model **Features of PD associated with effective instruction** The following features were found to correlate strongly with the use of activities related to higher-level meaning in classroom literacy instruction: 1. A focus on content / curriculum 2. Participation in coaching / mentoring 3. Amount of time spent doing PD activities 4. Coherence of PD activities (this correlation only appeared in the second year of the study suggesting that coherence among PD experiences may emerge as an important factor over time) A negative correlation was found for PD activities focused on pedagogy and a marginal correlation was found for time spent in collaborative planning.
Leadership / Professional Development *Journal of Education for Students Placed at Risk Vol 14, pp. 72 - 96*	**Graczewski, C., Knudson, J., Holtzman, D. (2009) Instructional leadership in practice: What does it look like, and what influence does it have?** This piece of research examined the relationship between leadership and coherence and relevance of professional development in a literacy school reform effort in the San Diego school system. The following four aspects of instructional leadership were investigated: (1) coherence of school-wide vision for instructional improvement; (2) focus on student learning and achievement; (3) follow-up / implementation support; and (4) leadership engagement in instructional improvement. The study drew on previous research suggesting that effective professional development should be relevant and coherent and should focus directly on content and curriculum. The effect of leadership on these two aspects of professional development was investigated. **Main Findings:** • All four leadership aspects correlated positively with "relevance and coherence of professional development, but of the four, coherent school-wide vision was by far the strongest predictor and was the only one that was statistically significant. • The above finding from surveys across the district was confirmed in case studies of 9 schools. At schools where the principal was able to foster a coherent vision, there was a greater likelihood that professional development was coherent and relevant. (The following were considered to be indicators of a coherent vision: "(a) The principal is able to articulate clear goals and strategies for the improvement of instruction and student achievement; (b) goals are understood and supported by the majority of the school's teachers; and (c) the various goals and strategies for professional development and instruction are consistent with each other". The following were considered to be indicators of the relevance and coherence of professional development: "(a) consistent with the school's goals to improve teaching and learning; (b) consistent with or complementary to other professional learning opportunities; and

	(c) consistent with teacher's goals for professional learning.") • All of the leadership aspects correlated with a focus on content and curriculum but the direct engagement of the leadership team in professional development activities was by far the strongest predictor and the only one that was statistically significant. • Once again the survey correlations were confirmed in the 9 case study schools. (The following were considered to be indicators of leadership engagement in professional development: "(a) the extent to which the principal visited classrooms; (b) the extent to which the principal provided resources and support for professional development; and (c) the extent to which the principal understood the learning needs of teachers". The following were considered to be indicators of a content and curriculum focus for professional development: professional development for which the main goals were to (a) strengthen teachers' content knowledge; (b) develop grade-level standards; (c) articulate curriculum within or across grades; and (d) improve monitoring of student progress") **Obstacles which could hinder site-based instructional leadership** The following were identified as potential obstacles: ➢ Principal capacity ➢ Competing demands for a principal's time ➢ Top down models of instructional leadership ➢ Personal relationships
Assessment / Using Data / Professional Development *Journal of Education for Students Placed at Risk, Vol. 10, No. 3, pp. 269 - 280*	**Murnane, R., Sharkey, N. & Boudett, K. (2005) Using student-assessment results to improve instruction: Lessons from a workshop** This authors conducted a series of fourteen workshops on using data from standardized tests to improve instruction conducted over a year in the Boston public school system. Feedback on the workshops was collected using: the writings of workshop participants; debriefing sessions; online surveys; a report written by participants in the final workshop session. **Main Findings:** **Lesson related to structuring workshops** • Many groups did not initially function well and benefitted greatly from the introduction of structured approaches to conversation such as the question formulation technique developed by the Right Question Project (http://www.rightquestion.org) and a protocol from the Coalition of Essential schools (http://www.essentialschools.org/cs/resources/view/ces_res/54) • Groups found it most useful when the activities were focused on real data from their own schools rather than more abstract case studies. They appreciated the opportunity to apply structured approaches to data-based problem-solving to their own data questions. • Groups found it useful to have workshop time specifically set aside for them to work on data projects from their schools. • Groups found it useful to share problems and insights across schools and across groups. One activity required participants to read and write about the reports prepared by other schools and participants felt this provided valuable insights. **Lessons related to data use** • The workshop had focused on a particular external assessment used in Boston public schools and as part of the workshop participants actually completed the assessment itself under test conditions. Participants perceived this as a very valuable way of coming to understand the structure and content of the assessment itself. Many of them took away from this an understanding of the importance of all sections of the schools working together to identify the skills and strategies that were important on the test and the importance of cross-disciplinary collaboration in helping learners develop these skills. • Some schools, particularly those whose results on the assessment overall were not good focused their data questions more on

	increasing the scores of those students who feel just below the minimum passing score, largely ignoring other groups of students. • In implementing the projects designed during the workshop all groups highlighted the critical importance of the role of the school leadership in setting a tone and supporting the use of data to improve instruction. • Overall, groups recognized the importance of allowing data questions to evolve over time.
Professional Development / Teacher Quality In Calderhead, J. & Gates, P. (2005) *Conceptualizing Reflection in Teacher Development*	**Russell, T. (2005) Critical Attributes of a Reflective Teacher: Is Agreement Possible?** The author seeks to define the critical attributes of a reflective teacher by posing a series of questions. He claims that if each teacher educator were to respond to the questions they would better come to understand their personal assumptions related to reflection in teaching. The author's responses to the questions are based on his own experience as a teacher educator and draw on specific examples. **Main Arguments:** The questions and the author's own responses are as follows: • "**How does a teacher know when reflection is productive?**" – "…when it leads to changes in practice that may or may not be retained but that result in a better personal understanding of one's practice." • "**How does an observer recognize a reflective teacher?**" - "only by investing considerable time in observation and discussion…with a view to listening for puzzles and dilemmas, for re-thinking of assumptions and beliefs, and for evidence that these are taken into the practice setting." • "**Is a reflective teacher a good teacher?**" – "… we are more likely to understand reflection if we keep it separate from the elusive and time-worn issue of what represents 'good' teaching." • "**How is a weak reflective teacher different from a strong un-reflective teacher?**" – "here there is no simple reply…there are at least three issues involved here: quality of teaching (as perceived by pupils and by observers), quality of reflection (based on spoken and written words and on observations of practice), and consistency - the extent to which one's teaching practice matches one's beliefs and self-perceptions." • "**Can a teacher whose practices never change be said to be reflective?"** - "probably not" • "**Is a teacher who can articulate principles of practice being reflective?**" – "Yes, - if the principles of practice match the practice rather than personal beliefs about the practice." • "**Does being reflective mean thinking about one's teacher, or does it require doing something about one's teaching?**" - "…being reflective serves little purpose if it does not involve, in central and essential ways, changes to teaching as well as development of thinking about teaching." • "**Can one be a reflective teacher while denying all interest in reflection?**" – "…it seems possible but improbable." • "**Can reflection help the weak teacher improve?**" - "We assume that beginners learn to teach by being told how to teach… We also assume that practical experience in schools leads directly to learning how to teach." In the case of the weak teacher…"rather than questioning our medium of communication or our assumptions about how one learns to teach, we conclude that the weak student teacher failed to take the advice offered…" An alternative interpretation would be that the weak teacher has not seen the connections the observer has seen to their practice and needs substantially more help than we generally offer in learning how to reflect on their teaching.
Professional Development / Leadership	**Drago-Severson, E. (2008) Four practices serve as pillars for adult learning.** The author draws on her research on effective principals to suggest four strategies that principals can use to promote adult learning within schools.

Journal of Staff Development Vol. 29, No. 4, pp. 60 - 63	**Main Findings / Arguments:** The four strategies are: • *Teaming* – Collaboration in the schools studied centered around curriculum, literacy, technology, teaching, and diversity. Getting teachers working in teams helped to: - Open communication and decrease isolation; - Share philosophies of teaching and learning; - Provide a safe environment to share perspectives, challenge each others' thinking, and question assumptions about curriculum and student work; - Examine the school's mission; - Overcome adults' resistance to change; - Facilitate the implementation of new initiatives; - Share leadership and make decisions collaboratively. • *Giving leadership responsibility* – When principals get colleagues to step up to increased responsibility, it gives them the chance "uncover their assumptions and test out new ways of working as professionals." The effect was often transformational. • *Collegial inquiry* – Effective principals get adults engaged in conflict resolution, goal-setting, decision-making, and studying the school's curriculum and instructional practices. • *Mentoring* – "Mentoring and coaching creates an opportunity for broadening perspectives, examining assumptions, and sharing expertise and leadership," varying from "mission spreading" to sharing valuable insights to giving emotional support to novice teachers. • Robert Kegan identifies three "ways of knowing." Being aware of these can help principals be thoughtful about customizing the above initiatives for maximum adult learning. - Instrumental – This is a concrete orientation to life: "What do you have that can help me? What do I have that can help you?" People in this way of knowing are oriented toward following rules and procedures and accomplishing their goals. "These learners cannot yet fully consider or acknowledge another person's perspective. Principals and teachers can help instrumental knowers grow by creating situations where they must consider multiple perspectives." - Socializing – "Others' approval and acceptance is of utmost importance to socializing knowers. Interpersonal conflict is almost always experienced as a threat…" School leaders can help these adults share their views in small groups before getting involved in large-group discussions.

	- Self-authoring – These adults have developed their own internal value system, but may be unable to recognize that other people can legitimately hold completely opposite views that may be worth hearing. Principals and colleagues can support self-authoring knowers' growth by gently challenging them to let go of their own perspectives and embrace alternative, diametrically opposing points of view that can inform their own.
Curriculum Implementation / Professional Development *Journal of Educational Research Vol. 78, No. 6, pp. 364 - 371*	**Broyles, I. & Tillman, M. (1985) Relationships of inservice training components and changes in teacher concerns regarding innovations.** This study used the Concerns-Based Adoption Model (developed by Hall and Loucks) to investigate the effects of different types of professional development activities on a range of innovations. The Stages of Concern Questionnaire was used before and after different professional development activities (data were obtained from 23 training workshops held early on in the respective implementation processes). The model posits that teachers go through various stages of concern when faced with the need to implement an innovation. These are as follows: *0 Awareness - Little concern or involvement with the project* *1 Informational - Need for general information* *2 Personal - Uncertainty about her / his role in the project.* *3 Management - Attention on the processes and tasks of using the project* *4 Consequence - Focus on the impact of the project on the learner* *5 Collaboration – Focus on coordination and cooperation with others regarding the project* *6 Refocusing - Exploration of alternative uses of the project or a replacement.* Four different types of workshop content were identified -introductory, skills, organization and theory. **Main Findings:** • In general, PD activities greatly reduced the intensity of awareness, informational and personal concerns. • The intensity of management concerns was slightly reduced • If a great deal of time was spent on introductory content, personal concerns were higher after the training. • When higher proportions of time were spent on skills content, the intensity of consequence concerns decreased. • When more time was spent on organizational content, the intensity of informational concerns decreased. • When more time was spent on theory, personal concerns remained high and refocusing concerns increased. (The model predicts that refocusing concerns should not be a significant issue until long after implementation so this result was a surprise considering these workshops took place prior to or early in the implementation of the programs. The researchers suggest that theory should therefore not be included in initial PD.) • When concrete examples and demonstrations were given, participants showed fewer refocusing concerns. (The researchers suggest that if high levels of program fidelity are desired, then demonstrating concrete examples may help achieve this.)
Curriculum Implementation / Professional Learning	**Bussis, A., Chittenden, E. & Amarel, M. (1976) *Beyond surface curriculum: An interview study of teachers' understandings.*** This study used in-depth interviews to assess the belief systems of teachers attempting to implement open education programs (defined to a great extent as seeing the child as a resource). **Main Findings:**

	• The congruence of teacher beliefs with those underlying the innovation to be implemented was found to be a crucial factor in successful implementation. • A distinction was made between surface curriculum (the learning tasks in the classroom) and deep curriculum (a teacher's long-term goals for their learners). A far greater level of self-confidence and self-efficacy was found in teachers whose surface curriculum and deep curriculum were aligned. The least self-confident group of teachers were those who were attempting to implemented the ideas of open education (even if they expressed a genuine feeling that open education was potentially beneficial), but whose underlying deep curriculum gave priority to grade level facts and skills. • Teachers whose surface curriculum was aligned with their deep curriculum showed a significantly greater ability to justify their choices of surface curriculum activities. • Teachers who were less likely to see the child as a resource in the classroom were also less likely to see other adults as a resource in the school. • Of the various sources of support offered to teachers during implementation, advisors (who worked with teachers in their classrooms) were singled out as being helpful twice as often as the next three most frequently mentioned sources of support. • A set of descriptions of the roles advisors played in classroom was developed (A. Service and Administrative Agent B. Extension of teacher E. Stage Director and Demonstrator F. Diagnostician and Problem-Solver G. Provider of Alternatives H. Explainer and Theorist I. Modeling Agent J. Appreciative Critic and Discussant K. Provocative and Reflective Agent L. Leader and Challenger. • Approximately one-third of all perception of support responses at each site fell within two emotional support categories (category C Emotional Stabilizer and Stimulator; and category D: Respecter of Individuality).