

## 6 References

- Ajzen, I. (1988). *Attitudes, Personality and Behaviour*. England: Open University Press.
- Akbaba-Altun, S. (2006, 13 April 2006). Complexity of Integrating Computer Technologies into Education in Turkey. *Educational Technology and Society* Retrieved 13 April, 2006, from [www.ifets.info/journals/9\\_1/15pdf](http://www.ifets.info/journals/9_1/15pdf)
- Akbulut, Y., Kesim, M., & Odabasi, F. (2007). Construct Validation of ICT Indicators Measurement Scale (ICTIMS). Retrieved 10 October, 2007, from <http://ijedict.dec.uwi.edu/viewarticle.php?id=359&layout=html>
- Albion, P. R. (1999). Self-Efficacy Beliefs as an Indicator of Teachers' Preparedness for Teaching with Technology. Retrieved 22 September, 2006, from <http://www.usq.edu.au/users/albion/papers/site99/1345.html>
- Arnold, M., Perry, R., Watson, R., Minatra, K., & Schwartz, R. (2006). The Practitioner: How Successful Principals Lead and Influence. Retrieved 16 August, 2007, from <http://cnx.org/content/ml4255/latest/>
- Ary, D., Jacobs, L. C., & Razavieh, A. (2002). *Introduction to Research in Education* (6th ed.). Belmont: Wadsworth.
- Asan, A. (2003). Computer Technology Awareness by Elementary School Teachers: A Case Study from Turkey. *Journal of Information Technology Education* Retrieved 8 August, 2006, from <http://www.iite.org/documents/Vol2/v2p153-164-109.pdf>
- Babbie, E. (2005). *The Basics of Social Research*. Canada: Wadsworth.
- Babbie, E., & Mouton, J. (2001). *The Practice of Social Research*. Cape Town: Oxford.
- Bajares, M. F. (1992). Teachers' Beliefs and Educational Research: Cleaning up a Messy Construct. *Review of Educational Research*, 62(3), 307-332.
- Basinger, D. (2003). Teachers Integrating Technology: Case Studies. Retrieved 3 September, 2006, from <http://www.usca.edu/essays/vol82003/basinger1.pdf>
- Bass, B. M., & Avolio, B. J. (1994). *Improving Organization Effectiveness: Through Transformational Leadership*. Thousand Oaks: SAGE Publications.
- Beatty, B. (2005). Emotional Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Becta ICT Research. (2003). What the Research Says About ICT Support for Schools. Retrieved 8 July, 2005, from [http://www.becta.org.uk/page\\_documents/research/wtrs\\_aboutict.pdf](http://www.becta.org.uk/page_documents/research/wtrs_aboutict.pdf)
- Becta ICT Research. (2004a). A Review of the Research Literature on Barriers to the Uptake of ICT by Teachers. Retrieved 11 June, 2006, from [http://partners.becta.org.uk/page\\_documents/research/barriers.pdf](http://partners.becta.org.uk/page_documents/research/barriers.pdf)
- Becta ICT Research. (2004b). What the Research Says About ICT and Continuing Professional Development (CPD) for Teachers. 2nd Edition Revised and Updated. Retrieved 8 July, 2006, from [http://www.becta.org.uk/page\\_documents/research/wtrs\\_cpds.pdf](http://www.becta.org.uk/page_documents/research/wtrs_cpds.pdf)

- Becta ICT Research. (2004c). What the Research says about ICT and Reducing Teachers' workload. Retrieved 15 August, 2007 from [http://partners.becta.org.uk/page\\_documents/research/wtrs\\_workloads.pdf](http://partners.becta.org.uk/page_documents/research/wtrs_workloads.pdf)
- Becta ICT Research. (2005). The Becta Review 2005. Evidence on the Progress of ICT in Education. Retrieved 9 July, 2005, from [http://www.becta.org.uk/page\\_documents/research/becta\\_review\\_feb05.pdf](http://www.becta.org.uk/page_documents/research/becta_review_feb05.pdf)
- Becta ICT Research. (2006). The Becta Review 2006. Evidence on the Progress of ICT in Education. Retrieved 11 June, 2006, from [http://becta.org.uk/corporate/publications/documents/The\\_Becta\\_Review\\_2006.pdf](http://becta.org.uk/corporate/publications/documents/The_Becta_Review_2006.pdf)
- Berg, B. L. (2001). *Qualitative Research Methods for the Social Sciences. Fourth Edition.* United States of America: Allyn & Bacon.
- Berglund Center Summer Institute. (2002). Learning, Technology and Educational Transformation. Retrieved 25 July, 2008, from <http://education.ed.pacificu.edu/bcis/workshop/adoption.html>
- Berube, W., Gaston, J., & Stepan, J. (2004). The Role of the Principal in Teacher Professional Development. [Electronic version]. *NOVAions Journal*, 2004(1). Retrieved 22 July 2007, from <http://www.novationsjournal.org/content/media/volume2004/NOVAions2004-1.pdf>
- Blase, J., & Blase, J. (2001). *Empowering Teachers. What Successful Principals do* (2nd ed.). United States of America: Corwin Press.
- Blase, J., & Blase, J. R. (1994). *Empowering Teachers. What Successful Principals do.* California: Corwin Press. Sage Publications.
- Blignaut, S., & Howie, S. (2007). *ICT Policies, Realities and Practices in South African Schools:* Tshwane University of Technology, University of Pretoria.
- Bogdan, R. C., & Knopp Biklen, S. (1992). *Qualitative Research for Education. An Introduction to Theory and Methods* (2nd ed.). Boston: Pearson.
- Bogdan, R. C., & Knopp Biklen, S. (2006). *Qualitative Research for Education. An Introduction to Theories and Methods* (5th ed.). Boston: Pearson.
- Borko, H. (2004). Professional Development and Teacher Learning: Mapping the Terrain. [Electronic version]. *Educational Researcher*, 33(8), 3-15. Retrieved 5 September 2006, from [http://www.aera.net/uploadedFiles/Journals\\_and\\_Publications/Journals/Educational\\_Researcher/Volume\\_33\\_No\\_8/02\\_ERv33n8\\_Borko.pdf](http://www.aera.net/uploadedFiles/Journals_and_Publications/Journals/Educational_Researcher/Volume_33_No_8/02_ERv33n8_Borko.pdf)
- Bradley, M. K., Kallick, B. O., & Regan, H. B. (1991). *The Staff Development Manager. A Guide to Professional Development.* Boston: Allyn and Bacon.
- Brand, G. A. (1997). What Research Says: Training Teachers for Using Technology. [Electronic version]. *Journal of Staff Development*, 19(1). Retrieved 10 August 2006, from <http://www.nsd.org/library/publications/jsd/brand191.cfm>
- Brown, A., & Dowling, P. (2001). *Doing Research/Reading Research.* London: FalmerPress.
- Buckenmeyer, J. A. (2005). No Computer Left Behind: Getting Teachers on Board with Technology. Retrieved 12 April, 2007, from

[http://center.uoregon.edu/ISTE/uploads/NECC2005/KEY\\_7304940/Buckenmeyer\\_necc2005\\_RP.pdf](http://center.uoregon.edu/ISTE/uploads/NECC2005/KEY_7304940/Buckenmeyer_necc2005_RP.pdf)

- Burbules, N. C., & Callister, T. A. (2000). *Watch IT. The Risks and Promises of Information Technologies for Education*. United States of America: Westview Press.
- Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organizational Analysis*. London: Heinemann Books.
- Busch, T. (1995). Gender Differences in Self-efficacy and Attitudes Toward Computers. [Electronic version]. *Journal of Educational Computing Research, Volume 12*(1995), 147-148. from [http://www.personal.psu.edu/users/m/t/mtel27/gender\\_differences.pdf](http://www.personal.psu.edu/users/m/t/mtel27/gender_differences.pdf)
- Bush, T. (2003). *Theories of Educational Leadership and Management*. London: SAGE Publications.
- Bush, T., & Glover, D. (2004). Leadership Development: Evidence and Beliefs. Retrieved 10 October, 2007, from <http://www.nesl.org.uk/media/756/EC/leadership-development-evidence-and-beliefs.pdf>
- Busher, H. (2006). *Understanding Educational Leadership. People, Power and Culture*. Berkshire: Open University Press.
- Butler, J. A. (1992). Staff Development. Retrieved 20 August, 2007, from <http://www.nwrel.org/scpd/sirs/6/cul12.html>
- Carlson, S., & Gadio, C. T. (2002). Teacher Professional Development in the Use of Technology. Retrieved 16 August, 2006, from [http://www.schoolnetafrika.net/fileadmin/resources/Teacher\\_Professional\\_Development\\_In\\_the\\_use\\_of\\_Technology.pdf](http://www.schoolnetafrika.net/fileadmin/resources/Teacher_Professional_Development_In_the_use_of_Technology.pdf)
- Center for CSRI. (2007). Improving Teacher Retention with Supportive Workplace Conditions. Retrieved 16 August, 2007, from [http://www.centerforcsri.org/index.php?option=com\\_content&task=view&id=466&Itemid=5](http://www.centerforcsri.org/index.php?option=com_content&task=view&id=466&Itemid=5)
- Chen, J. C., & Chang, C. (2005). Testing the Whole Teacher Approach to Professional Development: A Study of Enhancing Early Childhood Teachers' Technology Proficiency. Retrieved 28 July, 2006, from <http://ecrp.uiuc.edu/v8n1/chen.html>
- Chung, T. K. (2005). Successful ICT Implementation in School - Two Prerequisites. Retrieved 17 July, 2008, from [http://www.thecorner.org/ict/ict\\_leadership.pdf](http://www.thecorner.org/ict/ict_leadership.pdf)
- Clarke, A. (2007). *The Handbook of School Management*. Cape Town: Kate McCallum.
- Cohen, L., & Manion, L. (1994). *Research Methods in Education* (4th ed.). London: Routledge Publishers.
- Conole, G. (2004). E-learning: The Hype and the Reality. Retrieved 27 August, 2006, from <http://www.jime.open.ac.uk/2004/12/conole-2004-12-paper.html>
- Cope, C., & Ward, P. (2002). Integrating Learning Technology into Classrooms: The Importance of Teachers' Perceptions. [Electronic version]. *Educational Technology & Society, 5*(1). Retrieved 22 September 2006, from [http://www.ifets.info/journals/5\\_1/cope.html](http://www.ifets.info/journals/5_1/cope.html)

- Cowie, B., & Jones, A. (2005). Digital Horizons: Laptops for Teachers Evaluation Study. Update on Secondary Teachers' Experiences. Retrieved 16 August, 2007, from [http://www.minedu.govt.nz/web/downloadable/dl8568\\_vl/laptop-leaders-report-12-9-with-edits-ds.doc](http://www.minedu.govt.nz/web/downloadable/dl8568_vl/laptop-leaders-report-12-9-with-edits-ds.doc)
- Cox, M. J., Preston, C., & Cox, K. (1999). What Motivates Teachers to Use ICT? Retrieved 8 July, 2005, from [www.leeds.ac.uk/educol/documents/00001329.htm](http://www.leeds.ac.uk/educol/documents/00001329.htm)
- Darling-Hammond, L. (2005). *Professional Development Schools: Schools for Developing a Profession*. New York: Teacher College Press.
- Davies, B. (2005). *The Essentials of School Leadership*. London: SAGE Publications.
- Davies, B., & Davies, B. J. (2005). Strategic Leadership. In B. Davies (Ed.), *The Essential of School Leadership*. London: SAGE Publications.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982-1003.
- Day, C. (1999). *Developing Teachers: The Challenges of Lifelong Learning*. London: Falmer Press.
- Day, C., & Sachs, J. (2004). *International Handbook on the Continuing Professional Development of Teachers*. England: Open University Press.
- Deal, T. E. (2005). Poetical and Political Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Dean, J. (1991). *Professional Development in School*. Philadelphia: Open University Press.
- Demiraslan, Y., & Usluel, Y. K. (2008). ICT Integration Processes in Turkish Schools: Using Activity Theory to Study Issues and Contradictions. [Electronic version]. *Australasian Journal of Educational Technology*, 24(4), 458-474. Retrieved 27 August 2008, from <http://www.ascilite.org.au/ajet/ajet24/demiraslan.html>
- Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of Qualitative Research. Second Edition*. United States of America: SAGE Publications.
- Di Benedetto, A. O. (2005). Does Technology Influence Teaching Practices in the Classroom? Retrieved 22 September, 2006, from [http://web.uoregon.edu/ISTE/uploads/NECC2005/KEY\\_6820721/DiBenedetto\\_NECC\\_Paper\\_RP.pdf](http://web.uoregon.edu/ISTE/uploads/NECC2005/KEY_6820721/DiBenedetto_NECC_Paper_RP.pdf)
- Diaz-Maggioli, G. (2004). Teacher-Centered Professional Development. Retrieved 31 July, 2007, from [http://www.ascd.org/portal/site/ascd/template.chapter/menuitem.b71d101a2f7c208cd\\_eb3ffdb62108a0c/?chapterMgmtId=5b39cba5ddcaff00VgnVCM1000003d01a8c0RCRD](http://www.ascd.org/portal/site/ascd/template.chapter/menuitem.b71d101a2f7c208cd_eb3ffdb62108a0c/?chapterMgmtId=5b39cba5ddcaff00VgnVCM1000003d01a8c0RCRD)
- Dimmock, C., & Walker, A. (2005). *Educational Leadership. Culture and Diversity*. London: SAGE Publications.
- Dirksen, D., & Tharp, D. (1996). Utilizing CBAM to Assess the Use of Instructional Technologies in the Classroom. Retrieved 17 April, 2000, from [http://www.coe.uh.edu/insite/elec\\_pub/html1996/06preser.htm](http://www.coe.uh.edu/insite/elec_pub/html1996/06preser.htm)

- DoE. (2004a). *ICT in Schools in Turkey. Policy Note*. Retrieved 10 February 2008. from [www.oecd.org/dataoecd/25/62/2736884.pdf](http://www.oecd.org/dataoecd/25/62/2736884.pdf).
- DoE. (2004b). *White Paper on e-Education. Notice 1922 of 2004*. Pretoria.
- DoE. (2005). *Report on Provincial Visits to Gauteng, Western Cape and Northern Cape*. Pretoria: Department of Education.
- Drago-Severson, E. (2004). *Helping Teachers Learn. Principal Leadership for Adult Growth and Development*. California: Corwin Press. Sage Publications.
- Eastin, M. S., & LaRose, R. (2000). Internet Self-efficacy and the Psychology of the Digital Divide. Retrieved 7 August, 2006, from <http://jcmc.indiana.edu/vol6/issue1/eastin.html>
- Edgerson, D. E., & Kritsonis, W. A. (2006). Analysis of the Influence of Principal-Teacher Relationships on Student Academic Achievement: A National Focus. [Electronic version]. *National Journal for Publishing and Mentoring Doctoral Student Research*, 1(1). Retrieved 10 March 2008, from <http://www.nationalforum.com/Electronic%20Journal%20Volumes/Edgerson,%20David%20Analysis%20of%20the%20Influence%20of%20Principal.pdf>
- Ehman, L., Bonk, C., & Yamagata-Lynch, L. (2005). A Model of Teacher Professional Development to Support Technology Integration. [Electronic version]. *AACE Journal*, 13(3), 251-270. Retrieved 8 August 2006, from <http://www.thutong.org.za/resources/research/Model%20Teacher%20Prof%20Dev%20ICT%20Integration%202005.pdf>
- Everard, K. B., Morris, G., & Wilson, I. (2004). *Effective School Management* (4th ed.). London: SAGE Publications.
- Fabry, D., & Higgs, J. (1997). Barriers to the Effective Use of Technology in Education. *Journal of Educational Computing*, 17(4), 385-395.
- Flick, U., Von Kardorff, E., & Steinke, I. (2004). *A Companion to Qualitative Research*. London: Sage Publications.
- Foskett, N., & Lumby, J. (2003). *Leading and Managing Education. International Dimensions*. London: Paul Chapman Publishing.
- Francis, H. A., & Ezeife, A. N. (2007). Integrating Information and Communication Technology into the School Curriculum: A Case for Professional Development Models. Retrieved 16 August, 2007, from <http://www.asstudents.unco.edu/students/AE-Extra/2007/4/Ezeife.html>
- GautengOnline. (2003). GautengOnline: Bridging the Digital Divide. Retrieved 13 June, 2007, from <http://www.gautengonline.com>
- Gibson, I. W. (2002). Technology, Pedagogy and Education. [Electronic version]. *Journal of Information for Teacher Education*, 11(3), 315-334. Retrieved 14 August 2007, from <http://dx.doi.org/10.1080/14759390200200140>
- Gibson, I. W., & Oberg, D. (1999). Two Studies of Teacher Learning about Internet Use. [Electronic version]. *International Electronic Journal for Leadership in Learning*, 3(3), 1-9. Retrieved 28 July 2006, from <http://www.ucalgary.ca/~ieill/volume3/gibson.html>



- Gillani, B. B. (2003). *Learning Theories and the Design of e-Learning Environments*. Oxford: University Press of America.
- Girod, M., & Cavanaugh, S. (2001). Technology as an Agent of Change in Teacher Practise. *Technology Horizons in Education* Retrieved 5 November, 2005, from <http://www.thejournal.com/magazine/vault/A3429.cfm>
- Glatthorn, A. A., Jones, B. K., & Bullock, A. A. (2006). *Developing Highly Qualified Teachers. A Handbook for School Leaders*. United States of America: Corwin Press.
- Gordon, G. (2003). Do Principals Make a Difference? Retrieved 30 August, 2007, from [http://www.centerforcsri.org/index.php?option=com\\_content&task=view&id=466&Itemid=1](http://www.centerforcsri.org/index.php?option=com_content&task=view&id=466&Itemid=1)
- Green, F. (2000). *The Head Teacher in the 21st Century. Being a Successful School Leader*. Harlow: Pearson Education Limited.
- Gura, M., & Percy, B. (2005). *Recapturing Technology for Education. Keeping Tomorrow in Today's Classrooms*. United States of America: Rowman & Littlefield Publishers.
- Han, C. (2002). Leadership Roles of a Pre-school Principal in the Use of Information and Communication Technology: A Hong Kong Experience. [Electronic version]. *Contemporary Issues in Early Childhood*, 3(2), 293-297. Retrieved 16 August 2007, from <http://www.wwords.co.uk/pdf/viewpdf>
- Harris, A. (2005). Distributed Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Hatch, J. M. (2002). *Doing Qualitative Research in Education Settings*. Albany: New York Press.
- Hentsche, G. C., & Galdwell, B. J. (2005). Entrepreneurial Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Hezel Associates LLC. (2005-2006). PBS TeacherLine National Survey of Teacher Professional Development. Retrieved 17 August, 2007, from [http://www.hezel.com/PBSTeacherLine2005\\_2006\\_report.pdf](http://www.hezel.com/PBSTeacherLine2005_2006_report.pdf)
- Ho, J. (2006). Technology Leadership. *IT Literature Review* Retrieved 10 March, 2008, from [http://www.moe.gov.sg/edumall/rd/litreview/techn\\_leadership.pdf](http://www.moe.gov.sg/edumall/rd/litreview/techn_leadership.pdf)
- ICT op School. (2006). *Four in Balance Monitor 2006. Evidence on ICT in Education*. Netherlands: Kennisnet ICT op School.
- Inger, M. (1993). Teacher Collaboration in Secondary Schools. *CenterFocus*, 2.
- Intel Education. (2003). Intel Teach to the Future. Retrieved 13 June, 2007, from <http://www.intel.co.za/education>
- Jackson, G. (2000). Technology for Teacher Support. Retrieved 4 May, 2005, from [http://www.techknowlogia.org/TKL\\_active\\_pages2/CurrentArticles/main.asp?FileType=HTML&ArticleID=209](http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?FileType=HTML&ArticleID=209)
- Jacobs, M., Vakalisa, N., & Gawe, N. (2004). *Teaching-learning Dynamics. A Participative Approach for OBE* (3rd ed.). Cape Town: Heinemann Publishers.

- Jamieson-Proctor, R. M., Burnett, P. C., Finger, G., & Watson, G. (2006). ICT Integration and Teachers' Confidence in Using ICT for Teaching and Learning in Queensland State Schools. [Electronic version]. *Australasian Journal of Educational Technology*, 22(4), 511-530. Retrieved 16 August 2007, from <http://www.ascilite.org.au/ajet/ajet22/jamieson-proctor.html>
- Jimoyiannis, A., & Komis, V. (2007). Teacher Development. [Electronic version]. *Teacher Development*, 11(2), 149-173. Retrieved 14 August 2007, from [http://www.ecedu.upatras.gr/services/people/files\\_publications/TD\\_JimoyiannisKomis.pdf](http://www.ecedu.upatras.gr/services/people/files_publications/TD_JimoyiannisKomis.pdf)
- Johnson, S. M. (2004). *Helping Teachers Learn. Principal Leadership for Adult Growth and Development*. California: Sage Publications.
- Joiner, L. L. (2002). The Connected Teacher. *Educational Vital Signs 2000* Retrieved 5 November, 2005, from <http://www.electronic-school.com/2002/01/0102f1.html>
- Kalake, M. (2007). *Factors Enabling and Constraining ICT Implementation in schools: A Multiple Case Study of Three Secondary Schools in Lesotho*. Rhodes University.
- Kante, C. (2003). e-Training: The New Frontier of Teacher Professional Development. Retrieved 7 July, 2005, from [http://www.techknowlogia.org/TKL\\_active\\_pages2/CurrentArticles/t-right.asp?IssueNumber=19](http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/t-right.asp?IssueNumber=19)
- Khanya. (2001). Khanya:A Cape Education Department Technology and Education Project. Retrieved 13 June, 2007, from <http://www.khanya.co.za>
- Knapp, L. R., & Glenn, A. D. (1996). *Restructuring Schools with Technology*. Boston: Allyn & Bacon.
- Kotyk, P. (2006). Online Professional Development for Teachers. Retrieved 17 April, 2007, from [http://www.masscue.org/publications/archive/online\\_PD\\_teachers.pdf](http://www.masscue.org/publications/archive/online_PD_teachers.pdf)
- Kovalchick, A., & Dawson, K. (2004). *Education and Technology: An Encyclopedia*. California: ABC-CLIO.
- Kruger, A. G., & Steinman, C. F. (2003). The Organisational Climate and Culture of Schools. In I. Van Deventer & A. G. Kruger (Eds.), *An Educator's Guide to School Management Skills*. Pretoria: Van Schaik.
- Lal, V. (2002). The Impact of Computer-based Technologies in Schools - A Preliminary Literature Review. Retrieved 27 August, 2006, from [http://www.effectsproject.uts.edu.au/project\\_papers/4\\_vijendra\\_lal.pdf](http://www.effectsproject.uts.edu.au/project_papers/4_vijendra_lal.pdf)
- Lambert, L. (2005). Constructivist Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Latina, Z. (2000). Early Adopters of Technological Innovations. Retrieved 24 July, 2008, from <http://www.zonalatina.com?ZLdata99.htm>
- Law, N., & Chow, A. (2007a). *IEA SITES International Report: Pedagogical Practices in Mathematics and Science and the Use of ICT*: International Association for the Evaluation of Educational Achievement.

- Law, N., & Chow, A. (2007b). *IEA SITES International Report: Teacher Characteristics, Contextual Factors and How These Affect the Pedagogical Use of ICT*: International Association for the Evaluation of Educational Achievement.
- Law, N., Pelgrum, W. J., & Plomp, T. (2008). Pedagogy and ICT use in Schools Around the world: Findings from the IEA SITES 2006 Study. Retrieved 10 August, 2008, from <http://www.sites2006.net>
- Leask, M. (2001). *Issues in Teaching Using ICT*. Cambridge, London: University Press.
- Leithwood, K. (2002). Organizational Conditions to Support Teaching and Learning. In W. D. Hawley & D. L. Rollie (Eds.), *The Keys to Effective schools. Educational Reform as Continuous Improvement*. California: Corwin Press.
- Leithwood, K., & Jantzi, D. (2005). Transformational Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Lichtman, M. (2006). *Qualitative Research in Education. A User's Guide*. California: SAGE Publications.
- Lieberman, A. (2000). Networks as Learning Communities: Shaping the Future of Teacher Development. *Journal of Teacher Education*, 51(3), 221-227.
- Lieberman, A., & Miller, L. (2002). Transforming Professional Development. In W. D. Hawley & D. L. Rollie (Eds.), *The Keys to Effective schools. Educational Reform as Continuous Improvement*. California: Corwin Press.
- Litoselliti, L. (2003). *Using Focus Groups in Research*. London: Continuum.
- Loveless, A., & Dore, B. (2002). *ICT in the Primary School*. Philadelphia: Open University Press.
- Marsh, C. C. (1997). *Planning, Management and Ideology: Key Concepts for Understanding Curriculum* (Vol. 2). London: Falmer Press.
- Marshall, C., & Rossman, G. B. (1999). *Designing Qualitative Research* (3rd ed.). London: SAGE Publications.
- Mason, J. (2002). *Qualitative Researching* (2nd ed.). London: Sage Publications.
- Massachusetts Department of Education. (2002). *EdTech 2001*. Retrieved 5 March 2007. from <http://www.doe.mass.edu/edtech/etreport/2001.pdf>.
- McBurney, D. H. (1994). *Research Methods* (3rd ed.). California: Brooks & Cole Publishing Company.
- McCain, T. D. E., & Jukes, I. (2001). *Windows of the future*. California: Corwin Press.
- McKenzie, J. (1999). *How Teachers Learn Technology Best*. Washington: FNO Press.
- McMillan, J. H., & Schumacher, S. (2001). *Research in Education. A Conceptual Introduction* (5th ed.). New York: Longman.
- McMillan, J. H., & Wergin, J. F. (2002). *Understanding and Evaluating Educational Research* (2nd ed.). New Jersey: Merrill Prentice Hall.



- Means, B. (1994). *Technology and Educational Reform*. California: Jossey-Bass Inc.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass Inc.
- Microsoft. (2007). Microsoft Education: Partners in Learning. Retrieved 12 June, 2007, from <http://www.microsoft.com/education/PartnersinLearning.msp>
- Mills, G. E. (2003). *Action research. A guide for the teacher researcher* (2nd ed.). New Jersey: Merrill Prentice Hall.
- Moonen, B., & Voogt, J. (1998). Using Networks to Support the Professional Development of Teachers. [Electronic version]. *Journal of In-service Education*, 24(1998), 99-110. from <http://taylorandfrancis.metapress.com/media/78llrlywyhl43rjgvkwp/contributions/n/6/j/m/n6jmm4247480nl41.pdf>
- Mouton, J. (2001). *How to Succeed in your Master's and Doctoral Studies: A South African Guide and Resource Book*. Pretoria: Van Schaik.
- Mullen, C. A. (2005). *Mentorship*. United States of America: Peter Lang Publishing.
- Nawawi, M. H., Ayub, A. F. M., Ali, W. Z. W., Yunus, A. S. M., & Tarmizi, R. A. (2005). Teachers' Perceptions on the Conditions Facilitating the Use of Computers in Teaching Mathematics. Retrieved 22 September, 2006, from [http://www.pppij.usm.my/mojit/articles/pdf/Dec05/11%20-%20MATHEMATICS\\_TEACHERS\\_PERCEPTIONS-f.pdf](http://www.pppij.usm.my/mojit/articles/pdf/Dec05/11%20-%20MATHEMATICS_TEACHERS_PERCEPTIONS-f.pdf)
- NCREL. (2000a). Critical Issue: Providing Professional Development for Effective Technology Use Retrieved 25 February, 2005, from <http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te1000.htm>
- NCREL. (2000b). Professional Development for Teachers. Retrieved 5 November, 2005, from <http://www.ncrel.org/sdrs/areas/issues/educatrs/profdevl/pd2prof.htm>
- Nichols, J. (2006). Technology Integration Model for Teachers. Retrieved 29 July, 2007, from <http://www.teach-nology.com/tutorials/integrate/print.htm>
- Nolan, K., Friesen, D., Maeers, V., & Couros, A. (2005). A Case-Study of Pre-service Teachers Learning to Teach with Technology During Internship. Retrieved 30 August, 2007, from <http://www.educationaltechnology.ca/couros/publications/research/Nolan-EdMedia2005.pdf>
- Novak, J. M. (2005). Invitational Leadership. In B. Davies (Ed.), *The Essential of School Leadership*. London: SAGE Publications
- OFSTED. (2001). *ICT in Schools. The Impact of Government Initiatives* London.
- OFSTED. (2002). ICT in Schools. Effect of Government Initiatives Retrieved 10 April, 2005, from <http://www.ofsted.gov.uk/publications/docs/19.pdf>
- Pandor, N. (2007). E-learning in South Africa. Address by the Minister of Education, Naledi Pandor MP, at the World Ministerial Seminar on Technology in Education. Retrieved 12 June, 2007, from <http://www.education.gov.za/dynamic/dynamic.aspx?pageid=306&id=2471>

- Paul, J. R. M. (1999). Empowering Teachers to Use Computers Effectively Across the Curriculum. Retrieved 7 July, 2005, from <http://archive.wcape.school.za/mm99/cd/conf99/proceedings/31/CTPAPE~1.rtf>
- Pelgrum, W. J. (2007). *IEA SITES International Report: School Conditions for Pedagogy and ICT*: International Association for the Evaluation of Educational Achievement.
- Phelps, R., Graham, A., & Kerr, B. (2004). Teachers and ICT: Exploring a Metacognitive Approach to Professional Development. *Australasian Journal of Educational Technology*, 20(1), 49-68 Retrieved 28 July, 2006, from <http://www.ascilite.org.au/ajet/ajet20/phelps.html>
- Plomp, T., Anderson, R. E., Law, N., & Quale, A. (2003). *Cross-National Information and Communication. Technology Policy and Practices in Education*. United States of America: Information Age Publishing
- Prinsloo, I. J., & Van Schalkwyk, O. J. (Eds.). (2008). *Distance Education Programme ACE: Education Management*. Pretoria: University of Pretoria.
- Rallis, S. F., & Goldring, E. B. (2000). *Principals of Dynamic Schools. Taking Charge of Change*. California: Corwin Press.
- Richards, J. (2004). What New Teachers Value Most in Principals. [Electronic version]. *NAESP*, 83(3), 42-44. Retrieved 22 June 2007, from <http://www.naesp.org/ContentLoad.do?contentId=1128&action=print>
- Ritchie, J., & Lewis, J. (2003). *Qualitative research practice. A guide for Social Science Students and Researchers*. London: SAGE Publications.
- Roberts, J., & Associates. (1999). Integration of Information and Communication Technologies (ICTs) Through Teacher Professional Development: Issues and Trends in Canada. Retrieved 8 August, 2006, from <http://www.cmec.ca/international/forum/itr.canada.en.pdf>
- Rodney, D. (2001). Issues and Influences in Educational Technology. Retrieved 11 November, 2007, from <http://cyberlearn.fau.edu/drodney/Issues.htm>
- Rodrigues, S. (2005a). *International Perspectives on Teacher Professional Development: Changes Influenced by Politics, Pedagogy and Innovation*. New York: Nova Science Publishers.
- Rodrigues, S. (2005b). *A Model of Teacher Professional Development. The Partnership in the Primary Science Project*. New York: Nova Science Publishers.
- Sallis, E., & Jones, G. (2002). *Knowledge Management in Education. Enhancing Learning and Education*. London: Kogan Page Limited.
- Sapre, P. (2002). Realising the Potential of Educational Management in India. *Educational Management and Administration*, 30(1), 101-108.
- Schlager, M., & Fusco, J. (2003). Teacher Professional Development, Technology, and Communities of Practice: Are We Putting the Cart before the Horse? Retrieved 3 September, 2006, from <http://tappedin.org/tappedin/web/papers/2003/TPDBarab.pdf>
- SchoolNet SA. (2007). SchoolNet South Africa. Retrieved 12 June, 2007, from <http://www.school.za>

- Schumaker, D. R., & Sommers, W. A. (2001). *Being a Successful Principal. Riding the Wave of Change Without Drowning*. California: Corwin Press.
- Schwandt, T. A. (2007). *The Sage Dictionary of Qualitative Inquiry. Third Edition*. United States of America: SAGE Publications.
- SCOPE. (2003). PumaScope: The SCOPE Project. Retrieved 13 June, 2007, from <http://www.cs.up.ac.za/content.php?spc=fb>
- Scrimshaw, P. (2004). Enabling Teachers to Make Successful Use of ICT. Retrieved 7 July, 2005, from [http://www.becta.org.uk/page\\_documents/research/enablers.pdf](http://www.becta.org.uk/page_documents/research/enablers.pdf)
- Seale, C., Gobo, G., Gubrium, J. F., & Silverman, D. (2004). *Qualitative Research Practice*. London: SAGE Publications
- Selwyn, N. (2002). *Telling Tales on Technology: Qualitative Studies of Technology and Education*. London: Ashgate Publishing Limited.
- Sergiovanni, T. J., & Starratt, R. J. (1988). *Supervision: Human Perspectives* (Fourth ed.). New York: McGraw-Hill.
- Seyoum, A. F. (2004). Key Issues in the Implementing and Integration of ICT in Education System of the Developing Countries. Retrieved 10 September, 2006, from [http://edu.et/session%20IV\\_fullpapers/Key%20Challenges%20fators%20implementation\\_Abebe%20Feleke.pdf](http://edu.et/session%20IV_fullpapers/Key%20Challenges%20fators%20implementation_Abebe%20Feleke.pdf)
- Shelly, G. B., Cashman, T. J., Gunter, R. E., & Gunter, G. A. (2004). *Teachers Discovering Computers. Integrating Technology in the Classroom* (3rd ed.). United States of America: Thomson Learning.
- Silverman, D. (2004). *Qualitative Research. Theory, Method and Practice* (2nd ed.). London: Sage Publications.
- Simonson, M. R., & Thompson, A. (1997). *Educational Computing Foundations* (3rd ed.). Englewood Cliffs: Prentice-Hall.
- Somekh, B., & Davis, N. (1997). *Using Information Technology Effectively in Teaching and Learning*. London: Routledge Publishers.
- Somekh, B., & Lewin, C. (2005). *Research Methods in the Social Sciences*. Cornwall: Sage Publications.
- Soule, H. (2003). What do you Mean by ICT Integration? [Electronic version]. *Journal for Educational Reform in Namibia*, 16(April), 1-11. Retrieved 16 August 2007, from [http://www.schoolnet africa.net/fileadmin/resources/What do you mean by ICT integration.pdf](http://www.schoolnet africa.net/fileadmin/resources/What_do_you_mean_by ICT_integration.pdf)
- Southworth, G. (2005). Learning-centred Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications.
- Spurr, B., Rosanowski, J., & Williams, C. (2003). Investigating How Principals Influence Learning. Retrieved 16 August, 2007, from <http://www.atea.edu.au/ConfPapers/2003/Reviewed%20Papers/Spurr.doc>
- Starratt, R. J. (2005). Ethical Leadership. In B. Davies (Ed.), *The Essentials of School Leadership*. London: SAGE Publications

- Stephens, P., & Crawley, T. (1994). *Becoming an Effective Teacher*. England: Stanley Thornes Publishers
- Steyn, G. M., & Van Niekerk, E. J. (2005). *Human Resource Management in Education*. Pretoria: UNISA Press.
- Stoner, G. (1999). A Conceptual Framework for the Integration of Learning Technology. Retrieved February 10, 2006, from <http://www.icbl.hw.ac.uk/lti/implementing-it/frame.htm>
- Stonier, T., & Conlin, C. (1985). *The Three c's: Children, Computers and Communication*. London: Wiley.
- Tallerico, M. (2005). *Supporting and Sustaining Teachers' Professional Development. A Principal's Guide*. United States of America: Corwin Press.
- Telkom. (2007). Current Telkom Foundation Projects. Retrieved 12 June, 2007, from <http://www.telkom.co.za/minisites/telkomfoundation>
- Tenbusch, J. P. (1998). Teaching the Teacher; Technology Staff Development that Works. Retrieved 10 September, 2005, from <http://www.electronic-school.com/0398f1.html>
- Theroux, P. (2004). Enhance Learning with Technology. Retrieved 19 September, 2006, from <http://members.shaw.ca/priscillatheroux/change.htm>
- Thomas, H. E. (2006). *The Sustainable Implementation of Computers in School Districts: A Case Study in the Free State Province of South Africa*. University of Pretoria, Pretoria.
- Thorburn, D. (2004). Technology Integration and Educational Change: Is it Possible? Retrieved 11 August, 2006, from <http://www.usask.ca/education/coursework/802papers/thorburn/index.htm>
- Thutong Educational Portal. (2004). *Developing an Educational Portal for the National Department of Education: Detailed Project Report*. Johannesburg: Neil Butcher Associates.
- Toledo, C. (2005). A Five-Stage Model of Computer Technology Integration into Teacher Education Curriculum. Retrieved 25 July, 2008, from <http://www.citejournal.org/articles/v5i2currentpractice2.pdf>
- Tomlinson, H. (2004). *Educational Leadership. Personal Growth For Professional Development*. London: SAGE Publications.
- Trochim, W. M. K. (2001). Reliability and Validity. Retrieved 12 January 2002, from <http://www.trochim.human.cornell.edu/kb/rel&val.htm>
- Vallance, M. (2008). Beyond Policy: Strategic Actions to Support ICT Integration in Japanese Schools. [Electronic version]. *Australasian Journal of Educational Technology*, 24(3), 275-293. Retrieved 27 August 2008, from <http://www.ascilite.org.au/ajet/ajet24/vallance.pdf>
- Valli, L., & Hawley, W. D. (2002). Designing and Implementing School-based Professional Development. In W. D. Hawley & D. L. Rollie (Eds.), *The Keys to Effective schools. Educational Reform as Continuous Improvement*. California: Corwin Press

- Van der Westhuizen, P. C. (1997). Educational Management Tasks. In P. C. van der Westhuizen (Ed.), *Effective Education Management*. Pretoria: Kagiso.
- Van Deventer, I., & Kruger, A. G. (2003). *An Educator's Guide to School Management Skills*. Pretoria: Van Schaik.
- Van Rooyen, J. W., Joubert, H. J., & Heystek, J. (2005). ACE: Education Management. In *Department of Education. Management and Policy Studies*. Pretoria: University of Pretoria.
- Viadero, D. (2005). Pressure Builds for Effective Staff Training. Retrieved 4 September, 2006, from <http://www.edweek.org/agentk-12/teacher-recruiter/2005/07/27/43pd.h24.html>
- Wallace, M., & Poulson, L. (2003). *Learning to Read Critically in Educational Leadership and Management*. London: SAGE Publications.
- Walsh, K. (2002). ICTs about Learning: School Leadership and the Effective Integration of Information and Communications Technology. Retrieved 8 February, 2008, from <http://www.ncsl.org.uk/media/1DO/CD/icts-about-learning.pdf>
- Wang, Q., & Woo, H. L. (2007). Systematic Planning for ICT Integration in Topic Learning. [Electronic version]. *Educational Technology and Society*, 10(1), 148-156. Retrieved 16 August 2008, from [http://www.ifets.info/journals/10\\_1/14.pdf](http://www.ifets.info/journals/10_1/14.pdf)
- Waters, S. (2008). Rogers Adoption Innovation Curve. Retrieved 25 July, 2008, from <http://suewaters.wikispaces.com/Rogers>
- Webber, C., & Robertson, J. (1998). Boundary Breaking: An Emergent Model for Leadership Development. [Electronic version]. *Education Policy Analysis Archives*, 6(21), 1-22. Retrieved 20 April 2007, from <http://epaa.asu.edu/epaa/v6n21.html>
- West-Burnham, J. (1992). *Managing Quality in Schools: Effective Strategies for Quality Based School Improvement*. Harlow: Longman.
- Wikipedia. (2006a). Self-efficacy. Retrieved 7 August, 2006, from [http://en.wikipedia.org/wiki/Self\\_efficacy](http://en.wikipedia.org/wiki/Self_efficacy)
- Wikipedia. (2006b). Technology Integration. Retrieved 27 September, 2006, from [http://en.wikipedia.org/wiki/Technology\\_integration](http://en.wikipedia.org/wiki/Technology_integration)
- Woodbridge, J. (2004). Technology Integration as a Transforming Teaching Strategy. Retrieved 27 July, 2006, from <http://www.techlearning.com/shared/printableArticle.ihtml?articleID=17701367>
- Young, P. G., Sheets, J. M., & Knight, D. D. (2005). *Mentoring Principals. Frameworks, Agendas, Tips and Case Stories for Mentors and Mentees*. United States of America: Corwin Press.
- Zepeda, S. J. (1999). *Staff Development. Practices that Promote Leadership in Learning Communities*. New York: Eye On Education.
- Zhao, Y., & Bryant, F. L. (2006). Can Teacher Technology Integration Training Alone Lead to High Levels of Technology Integration? A Qualitative Look at Teachers' Technology Integration after State Mandated Technology Training. [Electronic version]. *Electronic*





*Journal for the Integration of Technology in Education*, 5, 53-62. Retrieved 23 September 2006, from <http://ejite.isu.edu/Volume5/Zhao.pdf>

Zheng, D. (2003). Teachers' Perception of Using Instructional Technology in the Classroom. Retrieved 22 September, 2006, from [http://www.education2.uconn.edu/epsy240/dzheng/portfolio/products/Teacher\\_Perception\\_IT.pdf](http://www.education2.uconn.edu/epsy240/dzheng/portfolio/products/Teacher_Perception_IT.pdf)

**Addendum 1.1 International research projects\***

<b>Ofsted - London</b>			
<b>Criteria</b>	<b>Description</b>		
<b>Year</b>	<ul style="list-style-type: none"> <li>• 1997 - 2002</li> </ul>		
<b>Aims of projects</b>	<ul style="list-style-type: none"> <li>• Equip schools with modern ICT facilities</li> <li>• Create a National Grid for Learning (NGfL) containing educational information and study material</li> <li>• Organise in-service training for teachers to enable them to use ICT effectively in their work</li> <li>• All schools, colleges and public libraries, and as many community centers as possible, to be connected to the NGfL</li> <li>• Britain to become a centre for excellence in developing software content, and a world leader in exporting learning services</li> <li>• Serving teachers to feel confident and be competent to teach using ICT within the curriculum</li> <li>• School-leavers to have a good understanding of ICT, with measures in place for assessing their competence</li> </ul>		
<b>Scope</b>	<ul style="list-style-type: none"> <li>• Visited 368 schools</li> <li>• 96 % of primary schools and all secondary schools were connected to the Internet</li> <li>• Pupil to computer ratios 18:1 in primary schools and 9:1 in secondary</li> </ul>		
<b>ICT initiatives</b>	<ul style="list-style-type: none"> <li>• Managing and funding the teacher training program, using policy directions</li> <li>• Procurement of an appropriate infrastructure, development of content interactive learning materials</li> <li>• Distribution of laptop computers, over 50,000 teachers have benefited from this</li> <li>• Provide online support for teachers who have followed the training programme, with an emphasis on classroom applications. The government has also announced its intention to support the Curriculum Online project, which will see the production of digital learning resources across subjects and key stages</li> </ul>		
<b>Findings: Training</b>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p style="text-align: center;"><b>Positive</b></p> <ul style="list-style-type: none"> <li>• Training has been integrated into existing good staff development practice in ICT</li> <li>• Some shortcomings in training have been identified early and addressed energetically</li> <li>• Personal access for teachers to a computer for the purpose of preparation and planning is one of the strongest influences on the success of ICT training and subsequent classroom use</li> <li>• Teachers have improved their basic ICT skills and the extent to which ICT is used in classrooms has risen</li> <li>• Some training institutes have been making improvements to their training and have acted on the feedbacks from schools</li> <li>• Government initiatives provide a positive context for development</li> <li>• Good training has enabled teachers, especially in primary schools, to begin to adopt effective pedagogical practice in ICT suites</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <p style="text-align: center;"><b>Negative</b></p> <ul style="list-style-type: none"> <li>• Training remains unsatisfactory in its overall effect</li> <li>• Training for teachers has not had as widespread effect on classroom practice as intended</li> <li>• Training materials often failed to excite teachers</li> <li>• Teachers and schools fail to persevere with the training because of lack of time, technical and organisational difficulties</li> <li>• Under- or over-estimating teachers' existing knowledge</li> <li>• Poor match or unrelated training materials to teachers' current work</li> <li>• Lack of good subject-specific ideas and resources</li> <li>• Lack of differentiation in the training programmes to extend the highly competent ICT users and at the same time meet the needs of those teachers with lower levels of confidence</li> <li>• Despite their training, some teachers are no better placed to sustain and develop ICT in their subject teaching</li> </ul> </td> </tr> </table>	<p style="text-align: center;"><b>Positive</b></p> <ul style="list-style-type: none"> <li>• Training has been integrated into existing good staff development practice in ICT</li> <li>• Some shortcomings in training have been identified early and addressed energetically</li> <li>• Personal access for teachers to a computer for the purpose of preparation and planning is one of the strongest influences on the success of ICT training and subsequent classroom use</li> <li>• Teachers have improved their basic ICT skills and the extent to which ICT is used in classrooms has risen</li> <li>• Some training institutes have been making improvements to their training and have acted on the feedbacks from schools</li> <li>• Government initiatives provide a positive context for development</li> <li>• Good training has enabled teachers, especially in primary schools, to begin to adopt effective pedagogical practice in ICT suites</li> </ul>	<p style="text-align: center;"><b>Negative</b></p> <ul style="list-style-type: none"> <li>• Training remains unsatisfactory in its overall effect</li> <li>• Training for teachers has not had as widespread effect on classroom practice as intended</li> <li>• Training materials often failed to excite teachers</li> <li>• Teachers and schools fail to persevere with the training because of lack of time, technical and organisational difficulties</li> <li>• Under- or over-estimating teachers' existing knowledge</li> <li>• Poor match or unrelated training materials to teachers' current work</li> <li>• Lack of good subject-specific ideas and resources</li> <li>• Lack of differentiation in the training programmes to extend the highly competent ICT users and at the same time meet the needs of those teachers with lower levels of confidence</li> <li>• Despite their training, some teachers are no better placed to sustain and develop ICT in their subject teaching</li> </ul>
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**Addendum 1.1 International research projects\***

Ofsted - London		
<b>Support</b>	<ul style="list-style-type: none"> <li>• Peer support and collaboration are crucial to success</li> <li>• Most competent supporting less skilled colleagues and sharing ideas through presentations</li> <li>• Positive shift in ICT away from infrastructure towards its use in the classroom to enhance teaching and learning</li> <li>• Good support ensures that schools focus on how ICT will have a positive effect on teaching and learning across the curriculum</li> <li>• Shift in the ICT support towards the use of ICT in the classroom to enhance teaching and learning</li> </ul>	<ul style="list-style-type: none"> <li>• Poor support from trainers or mentors</li> <li>• Lack of professional support disappoint many teachers</li> <li>• Lack of technical support</li> <li>• Many teachers have found online support to be unsatisfactory</li> <li>• Lack of support from peers and school management</li> <li>• Teachers left to their own devices to use distance learning materials in their own time rarely made little headway and did not complete their training</li> </ul>
<b>Motivation</b>	<ul style="list-style-type: none"> <li>• Willingness in the teaching profession to embrace ICT has increased</li> <li>• The use of the Internet has affected teachers' perceptions of what they can achieve</li> <li>• Teachers now recognise the potential for ICT to benefit teaching and learning and most are keen to develop their expertise</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers struggle with an unfamiliar technology and are sometimes apprehensive about using it</li> <li>• Motivation has waned in many teachers where they have not obtained appropriate subject advice and guidance</li> <li>• Too many teachers still lack confidence in using ICT</li> <li>• Lack of teacher expertise and confidence</li> <li>• Many teachers feel anxious about their technical knowledge, especially when something goes wrong, this inhibits their ICT teaching</li> <li>• Teachers become frustrated by repeated failure to access their web sites</li> <li>• Many teachers found the expectation to work on training materials outside school hours incompatible with other pressures on their time</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• Senior managers in schools take an active interest in teachers' progress and support them</li> <li>• ICT in some schools is a recognised school priority, where staff are already competent users of ICT</li> </ul>	<ul style="list-style-type: none"> <li>• Disillusionment arising from organisational problems</li> <li>• Lack of realism in whole school ICT planning, for example aiming to do too much within the resources available</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Improvements in teaching and learning with ICT are evident in those schools that have been connected to Internet services</li> <li>• Schools have been adapting the materials to meet their own needs</li> <li>• Planned government funding will support the Curriculum Online project by stimulating the market for materials and will be available to teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Training materials do not sufficiently engage teachers or make them want to explore the application of ICT to their subject</li> <li>• Training materials for specific subjects at secondary level have often failed to excite teachers</li> <li>• Lack of opportunities to try out what they have learned in training, computer rooms are heavily timetabled for ICT lessons</li> <li>• Although web sites and portals are developed for schools that provide access to content and external resources, most connected schools are unaware or make little effective use of it</li> </ul>
<b>Professional development</b>	<ul style="list-style-type: none"> <li>• Teachers now recognize the potential for ICT to benefit teaching and learning, most are keen to develop their expertise</li> <li>• Strong emphasis is placed on the use of ICT across the curriculum</li> <li>• Newly qualified teachers accept ICT as an integral part of their professional life, as do many of their more experienced colleagues</li> </ul>	<ul style="list-style-type: none"> <li>• ICT is capable of improving the quality of teaching and learning for individuals, even though this is not yet the norm in schools</li> </ul>

### Addendum 1.1 International research projects\*

Ofsted - London	
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>• Consider how best to match training approaches to the individual learning styles of teachers</li> <li>• Provision of allocated time in which to undertake professional development</li> <li>• Good support ensures that schools focus on how ICT will have a positive effect on teaching and learning across the curriculum</li> <li>• Unsatisfactory training and training materials need to be improved</li> <li>• Plan for the continuing support for different groups of teachers after the training scheme</li> <li>• Integrate training in the strategic management of ICT into the national training program for senior managers in schools, promote more effectively, through direct communications with schools, the role and value of interactive digital learning materials</li> <li>• Match the best practice in content development by involving more classroom teachers</li> <li>• Work with commercial partners to develop content that exploits the potential of Internet services</li> <li>• Monitor and evaluate more effectively the influence of Internet on teaching and learning</li> <li>• Improve whole-school ICT development planning in order to make the best use of available resources, and so that teachers can reinforce new skills in their teaching</li> <li>• Establish the ICT needs of teachers following training, provide opportunities for them to share classroom experiences</li> <li>• There is a need to promote web sites and portals</li> <li>• Effective technical support is necessary to ensure that teachers are free to concentrate on teaching</li> <li>• Run pilot training courses for principals and deputies on the management and leadership of ICT integration into the curriculum.</li> <li>• Provide a clear corporate vision and strategic plan for ICT which is in line with the specific ICT objectives for education</li> <li>• Embed support for ICT more firmly within the various support functions for school improvement, by providing appropriate professional development for advisers and inspectors</li> <li>• Provide better support for senior managers in school to help them make progress in ICT development planning</li> <li>• Monitor, evaluate and review progress in schools in order to make more informed decisions</li> <li>• Work in partnership with teachers to develop their confidence</li> </ul>

\* Adapted from OFSTED (2002).

### Addendum 1.1 International research projects\*

USA	
Criteria	Description
<b>Year</b>	<ul style="list-style-type: none"> <li>• 1999 -2003</li> </ul>
<b>Name of project</b>	(TICKAT) Teacher Institute for Curriculum Knowledge about Integration of Technology
<b>Aims of project</b>	<ul style="list-style-type: none"> <li>• Provide information based on findings for future use</li> <li>• Infusion of educational technology into K-12 curricula</li> <li>• Increase teachers knowledge and proficiency in integrating technology in the classroom</li> <li>• Provide year-long support to teachers who wanted to successfully integrate technology into the curriculum</li> <li>• Identify key characteristics of professional development model</li> <li>• Incorporated a collaborative approach in which teacher participants helped determined aspects of the program</li> </ul>
<b>Scope</b>	<ul style="list-style-type: none"> <li>• In-service teachers from rural schools</li> <li>• 133 teachers, representing 18 school systems, supported over 250 completed classroom technology integration projects</li> <li>• All subject areas</li> <li>• 60% high school teachers and 40% middle school teachers</li> <li>• Provided assistance through workshops, informal interaction and online instructional activities</li> <li>• Action research</li> </ul>
<b>ICT initiatives</b>	<ul style="list-style-type: none"> <li>• Provide year-long support to teachers who wanted to successfully integrate technology into the curriculum</li> </ul>
<b>Training</b>	<ul style="list-style-type: none"> <li>• Offered technology-related learning opportunities in rural schools</li> <li>• Provided community relevant training</li> <li>• Created opportunity for brainstorming</li> <li>• Teachers favored constructive activities</li> </ul>
<b>Support</b>	<ul style="list-style-type: none"> <li>• Provided support to participants by sustained assistance in classroom application of technology integration knowledge</li> <li>• Create school leadership that cohorts to support other teachers with technology integration</li> <li>• Numerous workshops according to the wishes, needs and availability of teachers were held</li> <li>• Provided online asynchronous web-based conferencing</li> <li>• Giving teachers early feedback and suggestions</li> <li>• Acknowledgement by peers are important</li> <li>• Promoted co-operation</li> <li>• Used online conferencing activities to generate and evaluate content ideas</li> </ul>
<b>Motivation</b>	<ul style="list-style-type: none"> <li>• Teachers had the opportunity to add to their competence and self-confidence as they met the requirements of professional development</li> <li>• Teachers found it important to praise, commiserate and empathise their experiences</li> <li>• Fostered teacher knowledge, skill, confidence, motivation and beliefs</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• Built leadership cohorts in schools that helped other teachers' technology integration into their classrooms</li> <li>• Strengthened the network between schools and universities</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Became equipped with rich technological resources</li> <li>• Opportunities for creating long-term plans for technology integration</li> <li>• Thoughtful integration into teaching and learning promoted increased student learning</li> </ul>



**Addendum 1.1 International research projects\***

USA	
<b>Professional development</b>	<ul style="list-style-type: none"> <li>• Identified characteristics to successfully integrate technology goals into teaching practices</li> <li>• Identified a professional development model</li> <li>• Teachers shared their experiences with colleagues and avoided isolation</li> <li>• Teachers continued to teach in-school technology workshops and participated in other activities to promote technology integration into the curriculum</li> <li>• Research helped teachers gain insights into professional development process thereby improving effectiveness of practice in classroom</li> </ul>
<b>Lessons learned</b>	<ul style="list-style-type: none"> <li>• Avoid including shanghaiied teachers. Teachers who were least devoted to developing, teaching and reporting on their technology integration projects were the ones who did not volunteer, but rather coerced to participate. Cannot assume complete willingness to participate on the part of teacher applicants although indicating keen interest in their applications</li> <li>• Teachers need a reasonable technology environment to work in. Makes sure that minimum levels of technology equipment, software and personnel support is available</li> <li>• Technology use must be thought in the teacher's computing environment. Provide instruction and support for teacher projects at the teachers' school setting thereby learning firsthand the technology opportunities and constraints experienced by teachers. On-site contact provided much needed support</li> <li>• Advisable to have an internal as well as an external leader</li> <li>• Makes sure that course requirements are not to demanding, that there is enough time to complete projects and do not add to unmanageable stress levels</li> <li>• Asynchronous web conferencing requires clear structuring of expectations that can give meaning to teachers</li> </ul>

\* Adapted from Ehnman Bonk, Yamagata-Lynch (2005, pp. 251 - 270).

**Addendum 1.1 International research projects\***

Turkey	
Criteria	Description
<b>Year</b>	<ul style="list-style-type: none"> <li>• 2001-2002</li> </ul>
<b>Aims of projects</b>	<ul style="list-style-type: none"> <li>• Research on teachers' perspectives, awareness level of specific technologies and the role technology plays in education</li> </ul>
<b>Omvang</b>	<ul style="list-style-type: none"> <li>• 252 teachers working in basic education schools in Trabzon, Turkey</li> <li>• Schools were randomly selected from the 51 urban schools</li> </ul>
<b>ICT initiatives</b>	<ul style="list-style-type: none"> <li>• Government funding initiatives to promote the use of information technology in schools</li> <li>• Applying information technology effectively to teaching and learning</li> </ul>
<b>Findings:</b>	
<b>Training</b>	<ul style="list-style-type: none"> <li>• Many teachers were not using the computer</li> <li>• Teachers lacked the basic computer literacy upon which to build new technology and skills</li> <li>• Low levels of technical skills</li> <li>• Lack of training or insufficient training opportunities</li> <li>• Training can help improve attitudes towards computing</li> <li>• Numerous teachers indicated they could use the computer but felt that they weren't proficient</li> <li>• Continuous training is necessary so that teachers can keep up-to-date with latest technology</li> </ul>
<b>Support</b>	<ul style="list-style-type: none"> <li>• No support to teachers who were not computer literate</li> </ul>
<b>Teacher perceptions</b>	<ul style="list-style-type: none"> <li>• Teachers needed to be encouraged to explore the emerging technologies for teaching</li> <li>• Teacher's beliefs, attitudes and knowledge towards computers and computing skills help to determine the effectiveness of technology integration in education</li> <li>• Increased computer experience diminishes computer anxiety and negative attitudes</li> <li>• It is necessary to determine teachers perceptions as it has an influence on the effective uptake of technology in education</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Supplying computers to schools doesn't lead to computer literate teachers</li> <li>• Insufficient resources for teachers to keep current with emerging technologies</li> </ul>
<b>Professional development</b>	<ul style="list-style-type: none"> <li>• Computer and related technologies had not been a routine part of their educational environment</li> <li>• Self-development activities were limited due to poor computer access</li> </ul>
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>• Results of study can be used in the educational system of newly developed countries</li> <li>• In order to upgrade their computer skills in-service teachers needed proper training</li> <li>• Schools need sufficient hardware and software</li> <li>• Computer technology should be part of classroom activities</li> <li>• Teachers need to become familiar with computers and apply computer technology to their instruction</li> <li>• Teachers must use Internet to search for relevant material and develop materials for their classes</li> <li>• Conduct study to define National Educational Technology Standards for teachers and develop plans to reach standards</li> </ul>

\* Adapted from Asan (2003, pp. 153 - 164).

**Addendum 1.1 International research projects\***

Name of project	Country and year	Scope	Methodology /Assumptions	Goal / purpose	Recommendations
Partnership in Primary Science (PIPS) model	Scotland	<p><b>PIPS 1 project:</b></p> <ul style="list-style-type: none"> <li>• Four Scottish education authorities</li> <li>• 16 Teachers from 10 Primary schools</li> <li>• 2 Secondary school teachers</li> <li>• 9 Scientists</li> <li>• 10 Months</li> </ul> <p><b>PIPS 2 project:</b></p> <ul style="list-style-type: none"> <li>• 3 Education authorities</li> <li>• 17 Primary school teachers</li> <li>• 2 Secondary school teachers</li> <li>• 5 Scientists</li> <li>• 5 Months</li> </ul>	<ul style="list-style-type: none"> <li>• TPD has to be of intrinsic value to individual teachers if to influence teaching</li> <li>• Changes in pedagogical content knowledge must start from teachers' perspectives</li> <li>• Teachers must require ownership of the change process</li> <li>• Collaboration and leadership were expected to exist in parallel</li> <li>• Worked on the assumption that TPD is about meeting individual, school, local and government development priorities</li> <li>• Balance between theory and practice</li> <li>• Balance between modelling teaching strategies and the exchange of ideas</li> <li>• Apply relevant research and addresses required standards while providing access to adequate resources</li> <li>• Working with teachers to encourage professional development</li> <li>• Teachers have control over the direction, relevance and content of TPD</li> <li>• Considered risk, readiness, relevance, recognition, reflection and resource</li> </ul>	<ul style="list-style-type: none"> <li>• Provide professional development involving ICT</li> <li>• Fashioning of knowledge in the area of effective use of various ICT in teaching and learning</li> <li>• Development of informed use of ICT tools</li> <li>• Use of collaborative communication technologies</li> <li>• Promotion of online dialogue to support long term profession development</li> <li>• Develop communities of practice to support teachers</li> <li>• Develop reflective community of practice</li> <li>• Provision of scaffold opportunities within a collegial community framework</li> <li>• Encourage teachers to adopt informed positions on pedagogical issues related to the use of ICT in terms of curriculum and assessment</li> <li>• Create opportunities for teachers to acquire skills that enable them to select and use ICT in confident and effective manner</li> <li>• Encourage the development of teacher leaders skills</li> <li>• Encourage personal and professional sharing</li> <li>• Encourage student learning</li> </ul>	<p><b>Continuing professional development:</b></p> <ul style="list-style-type: none"> <li>• Must be well resourced in terms of people, time and equipment</li> <li>• Allows for reflection on current practices</li> <li>• Promote the notion of ICT for lifelong learning</li> <li>• Builds on knowledge and understanding</li> <li>• Increases pedagogical content knowledge</li> <li>• Relevant to classroom practice</li> <li>• Recognise that teachers have different levels of experience</li> <li>• Develop communities to support different levels of teachers</li> <li>• Online support encouraged reflection and risk taking and should be supported on local and regional level</li> <li>• Risk, readiness, recognition, relevance, resource and reflection are significant factors in teacher development</li> <li>• Teacher behaviour and nature of this behaviour is an important factor</li> <li>• Integration of ICT was determined by the teacher</li> <li>• Contained and sustained opportunities to acquire ICT skills enabled teachers to use ICT in a confident and effective manner</li> <li>• Emphasis on collaboration, social interaction and re-negotiation of ideas</li> <li>• Teachers must be involved in designing, delivering and determining the programme</li> <li>• Curriculum resource development should be in tandem with professional development</li> </ul>

\* Adapted from Rodrigues (2005, pp. 1 - 95).

**Addendum 1.1 International research projects\***

Name of project	Country and year	Scope	Methodology /Assumptions	Goal / purpose	Findings
Part of: Education Queensland ICTs for Learning and Annual Census	2005 Australia - Queensland	<ul style="list-style-type: none"> <li>• 929 teachers from 38 Queensland state schools</li> <li>• 133 teachers came from low socio-economic band</li> <li>• 268 teachers came from mid-low socio-economic band</li> <li>• 372 teachers came from mid-high socio-economic band</li> <li>• 156 teachers came from high socio-economic band</li> </ul>	<ul style="list-style-type: none"> <li>• Rapid technology change and global communication part of the 21<sup>st</sup> century</li> <li>• Teachers resist to change familiar practices</li> <li>• ICT integration has had very little impact on teaching and learning</li> <li>• There are interrelated barriers that effect the use of ICT by teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Are ICT integration initiatives making a significant impact on teaching and learning?</li> <li>• Learning with ICT: Measuring ICT use in the curriculum instrument</li> <li>• Investigate teacher perception about their confidence to use ICT</li> <li>• Investigate the factors that currently constrain the use of ICT for teaching and learning</li> <li>• Focus on ICT sustainability, utilisation and transformation</li> <li>• Provide and expand ICT support and access to schools</li> <li>• New technologies will provide teachers with opportunities to transform the way they teach and learn</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence of significant resistance to using ICT to align curriculum with new times and new technologies</li> <li>• Current ICT initiatives hare having uneven and less than the desired result system wide</li> <li>• Only 57% of the teachers indicated reasonable or very confident users of ICT for teaching and learning</li> <li>• Teachers indicate that 56% of their learners in the different year levels currently use ICT</li> <li>• Teachers indicate that only 27% of their learners made use of ICT in the different curriculum areas</li> <li>• 45.5% of females and 33.6% males were unconfident with respect to their use of ICT for teaching and learning</li> <li>• There was an indication that learners from confident teachers use ICT more , than what the learners of the unconfident teachers do</li> <li>• Teacher age and years of experience is not significantly related to teachers confidence in using ICT</li> <li>• Teacher confidence was a major factor in determining teachers' and learners' usage of ICT</li> <li>• Teachers show a resistance to change and to transform the curriculum with ICT</li> <li>• Significant challenge for education system</li> <li>• Factors that afford and constrain teacher confidence in using ICT need to be addressed and resolved before any ICT curriculum initiative will have an impact on teaching and learning</li> </ul>

\* Adapted from Jamieson-Proctor, Burnett, Finger and Watson (2006).

**Addendum 1.2 ICTs potential in South Africa\***

**e-Education**

- ◆ Use of ICTs to accelerate the achievement of national education goals
- ◆ Connecting learners and teachers to each other and to professional support system
- ◆ Provide platforms for learning
- ◆ Learning activities that meet educational objectives
- ◆ ICTs is a resource for reorganising schooling, and a tool to assist whole-schooling development
- ◆ ICTs can lead to meaningful integration of learners with information, motivational tool and enhance productivity
- ◆ ICTs will enhance interaction
- ◆ Will lead to invention of new ways of using ICTs
- ◆ Use information effectively and keep abreast of technological advances
- ◆ Application of digital literacy as well as information literacy

**e-Schools**

- ◆ Learners who utilise ICTs to enhance learning
- ◆ Qualified and competent leaders who use ICTs for planning, management and administration
- ◆ Qualified and competent teachers who use ICTs to enhance teaching and learning
- ◆ Access to ICT resources that support curriculum delivery and connections to ICT infrastructure

**e-Learning**

Learning and teaching philosophies and methodologies within the context of outcomes-based education, using ICTs in the learning environment

**Learning about ICTs**

(exploring what can be done with ICTs)

- ◆ Improve the quality of teaching and learning across the education and training system
- ◆ Teaching will be transformed and learning will be an ongoing, creative process-change in teaching and learning methodology

**Learning with ICTs**

(using ICTs to supplement normal processes or resources)

- ◆ Enhance the quality and reach of teaching, reduce the time spent on administrative chores
- ◆ Multimedia applications that require learners to create realistic contexts

**Learning through the use of ICTs**

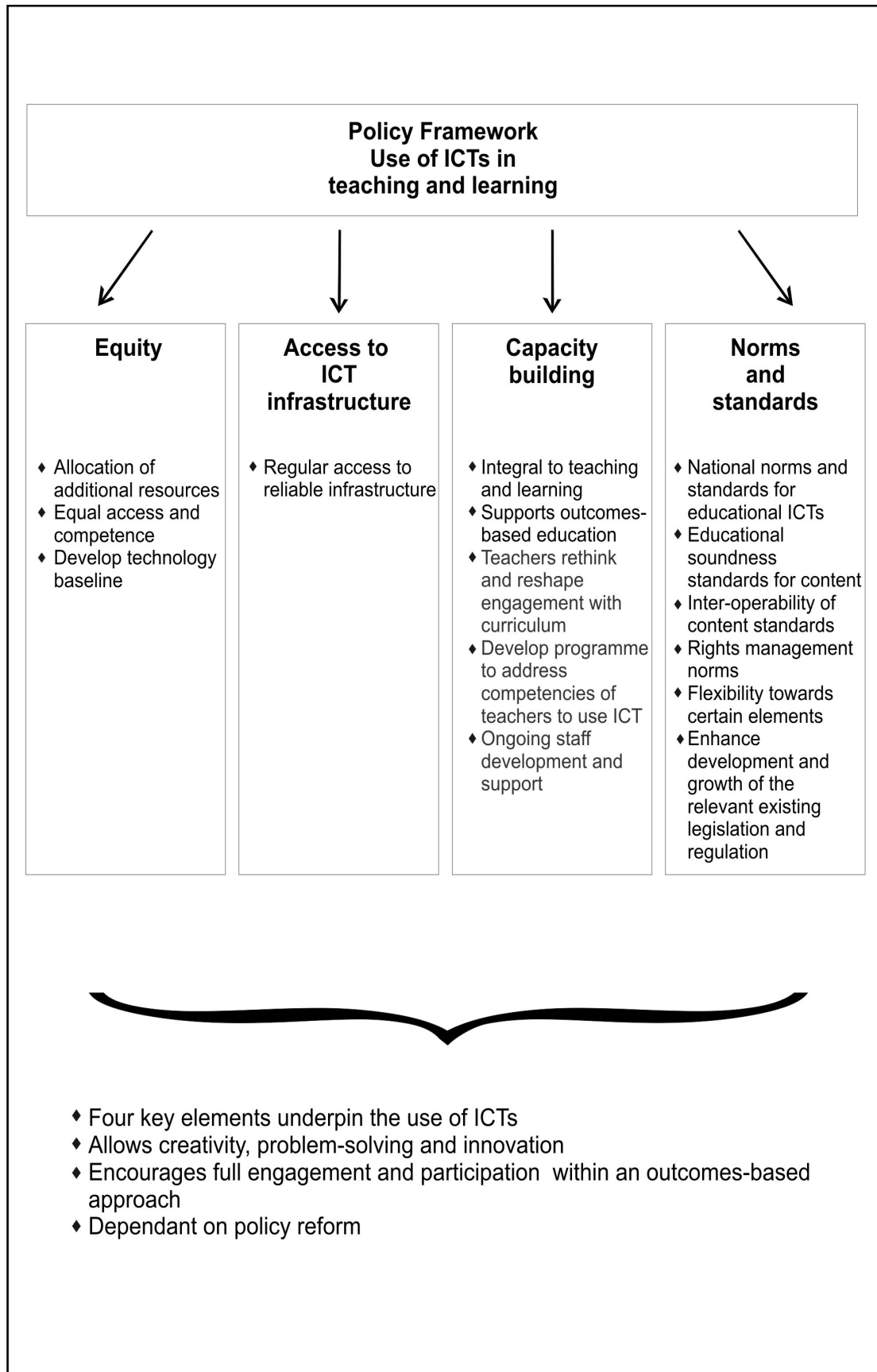
(using ICTs to support new ways of teaching and learning)

- ◆ Extend and enrich educational experiences across the curriculum
- ◆ Support learners to achieve the nationally-stated curriculum goals
- ◆ Use of higher-order thinking skills in order to evaluate, analyse, synthesis and produce arguments, ideas and performance
- ◆ Access for teachers and learners to a variety of learning and support material that promotes diversity, connectivity and a collective identity across the institutions

\* Adapted from DoE (2004, pp. 14 - 19).



**Addendum 1.3 National policy framework\***



\* Adapted from DoE (2004, pp. 22 - 24).

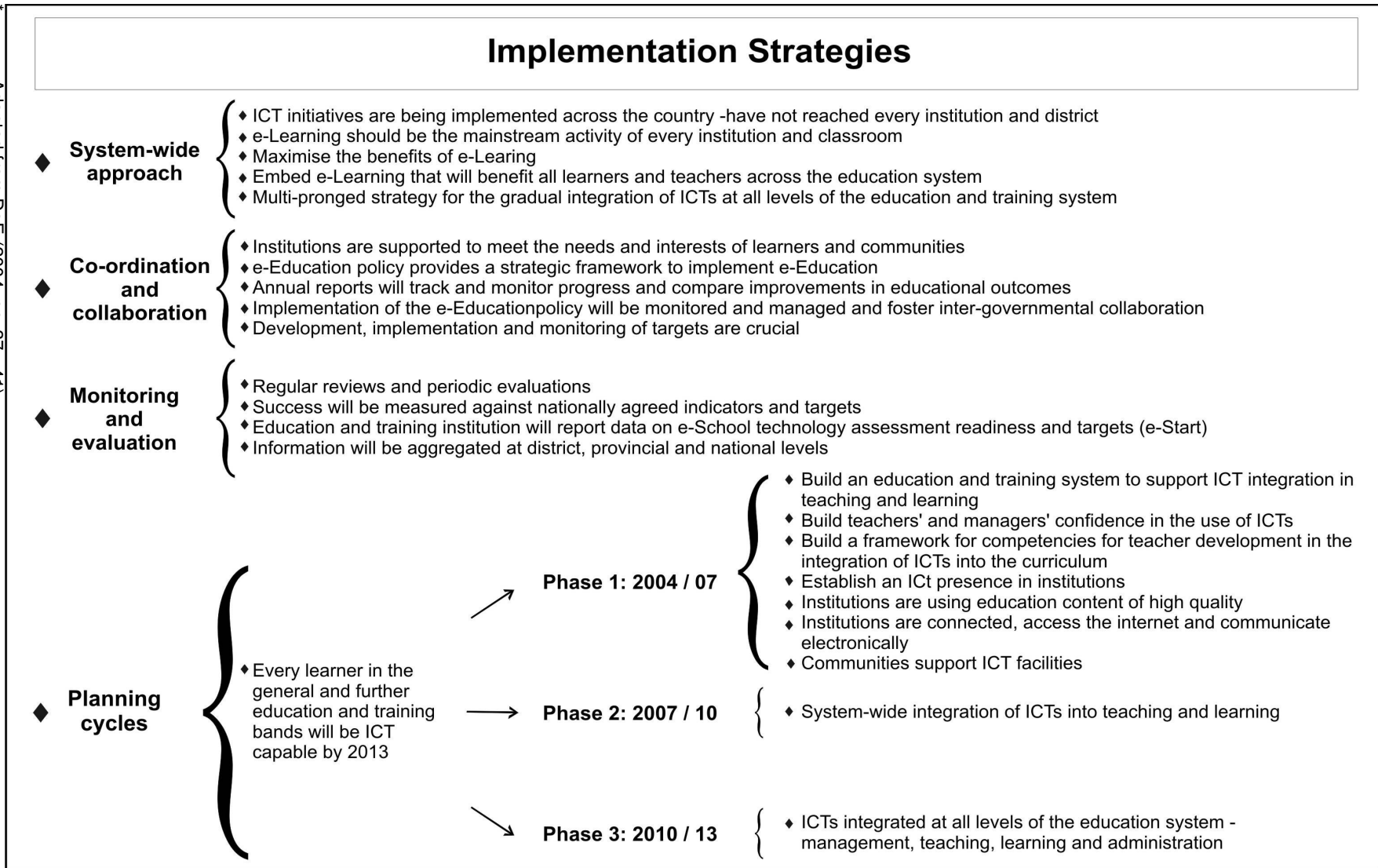


Addendum 1.4

Rationale for ICT implementation\*

<b>Rationale for ICT implementation</b>		↙	↘	↙	↘	↙	↘	
<b>ICT professional development</b>	Do teachers have the knowledge, skills and support they need to integrate ICTs in teaching and learning?	<ul style="list-style-type: none"> <li>◆ ICTs must be integrated into pre-service and in-service training</li> <li>◆ Must take place within an outcomes-based paradigm</li> <li>◆ Training and support will be given</li> <li>◆ ICT is a tool for improved educational performance</li> <li>◆ Be part of whole-school evaluation system</li> <li>◆ Teachers will be given opportunity to share good practices</li> </ul>	↙	↘	↙	↘	↙	↘
<b>Electronic content resource development and distribution</b>	Is the curriculum supported through effective, engaging and sustained software, electronic content and online resources?  Do teachers contribute effectively to these resources?	<ul style="list-style-type: none"> <li>◆ Enhance innovative, effective and sustainable e-Learning resources</li> <li>◆ Resources in digital form will be accessible to all learners and teachers</li> <li>◆ Content aligned with outcomes-based education</li> <li>◆ Development of national educational portal</li> </ul>	↙	↘	↙	↘	↙	↘
<b>Access to ICT infrastructure</b>	Does every teacher have access to ICT infrastructure?	<ul style="list-style-type: none"> <li>◆ Anticipated educational needs and objectives</li> <li>◆ Establish desired level of technology resources</li> <li>◆ Assess existing equipment and facilities</li> </ul>	↙	↘	↙	↘	↙	↘
<b>Connectivity</b>	Does every teacher have access to an educational network and the Internet?	<ul style="list-style-type: none"> <li>◆ Development of a national education network</li> <li>◆ Universal access</li> </ul>	↙	↘	↙	↘	↙	↘
<b>Research and development</b>	Are current practices continuously being assessed?  When exploring and experimenting reliable new technologies, methodologies and techniques are teachers being supported?	<ul style="list-style-type: none"> <li>◆ Evaluate and develop leading-edge applications for learning</li> <li>◆ Research must be linked to practice</li> <li>◆ Support the implementation of e-Learning approaches throughout the education system</li> </ul>	↙	↘	↙	↘	↙	↘

\* Adapted from DoE (2004, pp. 25 - 33).



### Addendum 1.6 National implementation projects \*

Project Name	Source of Funding/Partnerships	Target Group	Goals and Project Description
GautengOnline	Gauteng Provincial Department of Education	Public schools in Gauteng	GautengOnline aims to issue each school with a 25-workstation computer laboratory, Internet and e-mail to be used for curriculum delivery to: <ul style="list-style-type: none"> <li>• build a province-wide schools' computer network</li> <li>• create a strong local IT industry that has the capacity for IT development and innovation</li> <li>• enhance the efficacy of government for improved service delivery</li> <li>• position Gauteng at the cutting edge of change through technological innovation</li> <li>• bridge the digital divide (GautengOnline, 2003).</li> </ul>
Intel Teach to the Future (Intel® Teach Project)	Global Intel® Innovation in Education initiative SchoolNet SA as a local partner Intel® Teach is an official professional development programme of the South African Council for Educators	Educators across South Africa Training is funded either by the Provincial Education Department or by the school	The Intel® Teach Project is an extensive training programme for educators to use ICTs in the classroom that aims to: <ul style="list-style-type: none"> <li>• enable educators to use ICT in their teaching</li> <li>• engage learners to use ICT to conduct research, compile information, and communicate with others.</li> </ul> SchoolNet SA adapted the international version of the curriculum for local interpretations (Intel Education, 2003).
Khanya Project	Western Cape Provincial Education Department	Public schools in the Western Cape	The Khanya Projects aims to: <ul style="list-style-type: none"> <li>• empower every educator in every school of the Western Cape to use appropriate and available technology to deliver curriculum to every learner in the province by 2012</li> <li>• (progressively) eradicate the digital divide by starting with the poorest of the poor schools</li> <li>• strive towards racial and gender equity (Khanya, 2001).</li> </ul>
Meraka Institute	Derives its mandate as a national strategic initiative from President Mbeki's 2002 State of the Nation Address Private and public funding	Various projects: Digital Doorway Wireless Africa ICT in Education Open Source Centre	The objective of the Meraka Institute is to: <ul style="list-style-type: none"> <li>• facilitate national economic and social development through human capital development and needs-based research and innovation</li> <li>• lead to products and services based on ICTs.</li> </ul>

### Addendum 1.6 National implementation projects \*

Project Name	Source of Funding/Partnerships	Target Group	Goals and Project Description
Microsoft Partners in Learning Project	The international section of the Microsoft Partners in Learning programme SchoolNet SA as a local partner	Educators, learners, managers of schools across South Africa	The Microsoft Partners in Learning aims to: <ul style="list-style-type: none"> <li>empower schools to significantly raise the level of ICT literacy of educators</li> <li>support educators and schools to develop a culture of digital innovation</li> <li>work with schools to prepare learners for the digital work place (Microsoft, 2007).</li> </ul>
New Partnership for Africa's Development: NePAD eSchools Initiative	Commonwealth of Learning (COL) e-Africa Commission (eAC) Information for Development Program ( <i>infoDEV</i> ) World Bank SchoolNet Africa	Multi-country, multi-stakeholder Six schools in sixteen African countries	The first phase of the NePAD e-Schools Demonstration Initiative aims to demonstrate: <ul style="list-style-type: none"> <li>the scenarios and requirements in Africa</li> <li>the challenges of large-scale implementation of e-schools programmes</li> <li>the effectiveness of a multi-country, multi-stakeholder partnerships</li> <li>'best practice' models for large-scale implementations</li> <li>the costs, benefits and challenges of using ICTs in African schools</li> <li>the gains and challenges of a satellite-based network (Farrell, 2006).</li> </ul>
SchoolNet SA Project	Collaborates amongst others with NGOs, donors, the private sector, on-the-ground educators, World Bank, Open Society Foundation, Thintana Consortium, Nortel Networks, Telkom, Oracle, Departments of Education, Communication, Trade and Industry, and Arts, Culture, Science and Technology, etc.	Educators and learners that use ICTs in education across South Africa	SchoolNet SA aims to stimulate ICTs in education and support the educational system via: <ul style="list-style-type: none"> <li>connectivity and technology</li> <li>human development</li> <li>online content and material in function of the curriculum</li> <li>marketing and promotion.</li> </ul> These include support services such as: <ul style="list-style-type: none"> <li>low-cost e-mail services for all schools</li> <li>domain registration for each school</li> <li>web site hosting for each school</li> <li>mailing lists on a variety of topics</li> <li>curriculum advice and technical services to schools</li> <li>seminars, conferences and training for educators (SchoolNet SA, 2007).</li> </ul>



### Addendum 1.6 National implementation projects \*

Project Name	Source of Funding/Partnerships	Target Group	Goals and Project Description
SCOPE Project	Department of Education in conjunction with the Finnish Co-operation Programme in the Education Sector	Historically disadvantaged and rural schools across South Africa	The SCOPE project (1999-2003) aimed to: <ul style="list-style-type: none"> <li>• install twenty-one computer networks and dialup Internet connections in hundred schools</li> <li>• develop educators for the effective educational use of ICT facilities through mentor-supported distance learning</li> <li>• provide appropriate technical training onsite</li> <li>• provide telephonic technical support to the schools</li> <li>• monitor and evaluate the qualitative and quantitative impact of the project (SCOPE, 2003).</li> </ul>
Telkom 1000 Schools Project	Telkom Foundation Corporate in partnership with SchoolNet	Equal number of schools from each province across South Africa	The Telkom Foundation aimed to: <ul style="list-style-type: none"> <li>• supply one thousand schools with Internet access points</li> <li>• create hundred Super-Centres for introducing computers to schools</li> <li>• train educators and learners to use ICT (Telkom, 2007).</li> </ul>
The Thutong Educational Portal (2004)		South African learners, educators and education managers and administrators	Provides access to: <ul style="list-style-type: none"> <li>• Curriculum and learner support material</li> <li>• Educator professional development resources</li> <li>• Administration and management resources and tools</li> <li>• Education policy documents</li> <li>• News and information related to current developments in South African education</li> <li>• Online community (Thutong Educational Portal, 2004)</li> </ul>

\* Adapted from Blignaut and Howie (2007, pp. 10 - 12).

## Addendum 2.1 Management and leadership models\*

Formal model				
<ul style="list-style-type: none"> <li>• System consisting out of different departments that are linked</li> <li>• Official structure indicating authorised pattern of relationship among members</li> <li>• Hierarchical structure representing a means of control for leaders over staff</li> <li>• Principals must develop appropriate mission and goals – goal oriented</li> <li>• Principals authority and power stem from their official position , pursue specific objectives (goal developer)</li> <li>• Principals must lead teachers to achieve goals, implement plans and programmes, and meet standards (goal leader)</li> <li>• Managerial decision-making is a rational, objective, detached and intellectual process</li> <li>• Principals are accountable for actions and decisions</li> </ul>		<p style="text-align: center;"><b>Leadership - principal</b></p> <ul style="list-style-type: none"> <li>• Sets the tone of the school and establishes the major official objectives</li> <li>• Assess problems, consider alternatives and make rational choices</li> <li>• Plays a key role in policy-making and <b>adoption of innovations</b></li> <li>• Focal point for external communication</li> <li>• Represents and symbolises the school to people inside and community members</li> </ul>		<p style="text-align: center;"><b>Managerial leadership</b></p> <ul style="list-style-type: none"> <li>• Managing existing activities successfully</li> <li>• Decision process crucial</li> <li>• Develop and implement a cyclical process involving seven managerial functions:               <ul style="list-style-type: none"> <li>❖ goal-setting</li> <li>❖ needs identification</li> <li>❖ priority-setting</li> <li>❖ strategy and vision</li> <li>❖ planning</li> <li>❖ budgeting</li> <li>❖ implementing</li> <li>❖ evaluating</li> </ul> </li> </ul>
<p><b>Structural models</b></p> <ul style="list-style-type: none"> <li>• Formal pattern of relationships between people in the school</li> <li>• Expresses the ways in which individuals relate to each other to achieve objectives</li> <li>• Structures are powerful influences on the nature and direction of development within the school</li> <li>• <b>Normative mode:</b> <ol style="list-style-type: none"> <li>1. Monitoring and maintenance of values within the system</li> <li>2. Involve appraisal or judgement</li> </ol> </li> <li>• <b>Operational mode:</b> Carrying out of practical tasks at different levels within the system</li> <li>• Allocation of recourses, responsibilities and tasks</li> </ul>	<p><b>Systems models</b></p> <ul style="list-style-type: none"> <li>• Emphasise the unity, coherence and integrity of the organisation</li> <li>• Focus on the interaction between its component parts and the external environment</li> <li>• School is a meaningful entity</li> <li>• Policies are developed and effectiveness assessed in pursuit of objectives</li> <li>• Boundary is an essential element distinguishing the school and its members from the external environment</li> <li>• <b>Closed systems:</b> Minimise transaction with environment and take little account of external opinion</li> <li>• <b>Open systems:</b> Encourages interchanges with the environment, responding to external influences and seeking external support</li> </ul>	<p><b>Bureaucratic models</b></p> <ul style="list-style-type: none"> <li>• Hierarchical authority structure – teachers accountable to principal</li> <li>• Goal orientated – goals mainly determined by principal and endorsed by teachers</li> <li>• Division of labour – teachers specialising in particular tasks on the basis of expertise (subject specialists)</li> <li>• Decisions and behaviour are governed by rules and regulations</li> <li>• Teachers required to make an appointment to see principal</li> <li>• Recruitment and career progress of teachers determined on merit – formal procedures for the appointment of new or promoted teacher posts</li> <li>• Principals are accountable</li> <li>• Applies especially to educational institutions</li> </ul>	<p><b>Rational models</b></p> <ul style="list-style-type: none"> <li>• Emphasise managerial processes</li> <li>• Focus on the process of decision-making               <ul style="list-style-type: none"> <li>❖ Aims and priorities - allocating recourses</li> <li>❖ Long-term planning</li> <li>❖ Evaluating alternatives</li> <li>❖ Zero-based budgeting - taking fresh look at the areas of expenditure</li> <li>❖ Selecting the most appropriate options linked to school objectives</li> </ul> </li> </ul>	<p><b>Hierarchical models</b></p> <ul style="list-style-type: none"> <li>• Emphasis on vertical relationships within the school</li> <li>• Principals are accountable to governing bodies and department of education</li> <li>• Vertical communication – information passed down the hierarchy to appropriate levels and decisions made by management are expected to be implemented</li> <li>• Issues are referred upwards they can be resolved</li> <li>• Horizontal communication is used for co-ordination rather than management</li> <li>• Gets used to delegate tasks</li> </ul>
<p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Difficult to ascertain the goals of schools</li> <li>• Objectives may have little operational relevance as they can be vague and general</li> <li>• Focus on school as an entity and ignore or underestimate the contributions of individuals</li> <li>• Validity of formal models may be limited during rapid and multiple change</li> <li>• Decision-making as a rational process is questionable as most decisions are made according to experience and much human behaviour is irrational</li> <li>• In top down decision-making authority of expertise may come into conflict with positional expertise</li> <li>• The assumptions of stability in schools are unrealistic and invalid</li> </ul>				

Collegial (collaborative) model				
<ul style="list-style-type: none"> <li>Theories that emphasise that power and decision-making should be shared among the members of the school</li> <li>Highly normative and idealistic</li> <li>Decisions are made and policies are determined through a process of discussion that leads to consensus</li> <li>Members have a shared understanding about the aims of the school</li> <li>Teachers conferring and collaborating with other teachers</li> <li><b>Restricted collegiality:</b> Principal shares power with a limited number of senior colleagues</li> <li><b>Pure collegiality:</b> All members have an equal voice in determining policy</li> <li>Teachers possess authority of expertise arising from their knowledge and skills – autonomy in class, collaborate to ensure coherent approach to teaching and learning</li> <li>Common set of values held by members – jointly set of beliefs and values, shared vision</li> <li>Size of decision-making groups are small to enable everyone to be heard – democratic element of formal representations within the various decision-making bodies</li> <li>Power is shared with teachers and decisions are reached by consensus – consensual decision-making rests partly on the ethical dimension of collegiality</li> <li><b>Collective support from teachers is needed to implement any worthwhile change</b>, involvement in decision-making process is vital</li> </ul>	<p><b>Leadership - principles</b></p> <ul style="list-style-type: none"> <li>Responsive to needs and wishes of colleagues</li> <li>Acknowledge expertise and skills of teachers and use to benefit learners</li> <li>Create formal and informal opportunities for testing and elaboration of policy initiatives</li> <li>Encourages innovation</li> <li>Maximises the acceptability of school decisions</li> <li>Promotes and nurtures a culture of shared values</li> <li>Emphasises the authority of expertise</li> <li>Facilitator of participative process</li> <li>Authority distribution</li> </ul>	<p><b>Transformational leadership</b></p> <ul style="list-style-type: none"> <li>Gain higher level of commitment from teachers resulting in extra effort and greater productivity</li> <li>Normative approach focusing on the process by which leaders seek to influence school outcomes</li> <li>Shared values and common interests</li> <li>Emphasise goals and vision</li> <li>Offers individual support and intellectual stimulation</li> <li>Conditions support and sustain performance</li> <li>High performance expectations</li> <li>Fosters culture-building</li> <li>Participation in decision-making</li> <li>Collaborative processes</li> <li>Promote effective communication</li> <li>Build professional learning communities</li> </ul>	<p><b>Participative leadership</b></p> <ul style="list-style-type: none"> <li>Collective decision-making</li> <li>Participation increases school effectiveness</li> <li>Participation is justified by democratic principles</li> <li>Delegating responsibility</li> <li>Eases burden on principals</li> <li>Collaborative or collegial</li> <li>Increases teamwork and commitment of teachers</li> <li>Leader remains accountable for decisions</li> </ul>	<p><b>Interpersonal leadership</b></p> <ul style="list-style-type: none"> <li>Key component of any leadership model</li> <li>Authentic range of intuitive behaviours derived from self-awareness, facilitating effective engagement with others</li> <li>Collaboration and interpersonal relationships are important</li> <li>Require high level of personal and interpersonal skills</li> <li>Develop a conducive environment for learning and teamwork</li> </ul>
<p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>Can be so strongly normative they tend to obscure rather than portray reality</li> <li>Participative aspects of decision-making exist alongside the structural and bureaucratic components of school can cause tension</li> <li>Decision-making tend to be slow and cumbersome –requires patience and considerable investment in time</li> <li>Approach difficult to sustain as principal remains accountable for actions and decisions</li> <li>Decisions are reached by consensus but there are no guarantee of unanimity on outcomes</li> <li>Effectiveness depends on the attitudes and support of teachers</li> <li>Effectiveness depends on the attitude of principal who has the <b>legal authority to manage school</b></li> </ul>				

### Political model

- Policies and decisions emerge through process of negotiation and bargaining
- Descriptive and analytical
- Interest groups develop and form alliances in pursuit of particular policy objectives
- Conflict is viewed as natural phenomenon
- Power is the medium through which conflicts of interest are resolved
  1. Positional power: hold an official position
  2. Authority of expertise: possess appropriate expertise
  3. Personal power: possess verbal skills or certain characteristics
  4. Control or rewards: have the control or influence the allocation of certain benefits
  5. Coercive power: enforce compliance with request or requirement
  6. Control of resources: allocation of resources
- **Principals possess substantial resources of authority and influence, have the capacity to determine many institutional decisions and affect the behaviour of colleagues – but do not have absolute power (other leaders and teachers also have power)**
- Authority is legitimate power which is invested in leaders within formal organisation
- Influence is the ability to affect outcomes and depends on personal characteristics and expertise
- Described as “micropolitics”: the interaction and political ideologies of social systems of teachers
- National and local politics influence the context in which schools operate
- Focus on interaction of group activity rather than institution as a whole
- Formal groups:  
Created to fulfil specific goals and tasks linked to the school's overall mission. Groups can be permanent (senior management) or temporary (working parties)
- Informal groups:  
Exist to meet teachers' need for affiliation. Have their own leader and certain norms underpin group behaviour
- Individuals that form a group have a variety of interests which they pursue within the organization
- Professional interests:  
Commitment for example to a particular curriculum, syllabus or teaching method and become part of the micro-political process
- Personal interest:  
Focuses for example on status, promotion and working conditions
- Individuals in the group usually have the same values and beliefs, sharing common concerns
- As interest groups pursue their independent objectives having different aims and objectives than the other groups can generate conflict
- The goals of the organisation are unstable, ambiguous and contested. As the organisational goals are set through the negotiations among the members – different members and groups have different objectives and resources

#### Leadership - principles

- Key participant in the bargaining and negotiation process
- Have their own values, interests and policy objectives
- Have substantial reserves of power which may be used in support of achieving goals
- Significant impact on the nature of the internal decision-making process and have a controlling influence
- Uses communication skills to sustain the viability of the organisation
- Are mediators who attempt to build coalitions in support of policies
- Realists, clarify what they want and what they can get
- Assess the distribution of power and interests
- Build relationships and networks
- Uses persuasion, negotiation and lastly coercion

#### Transactional leadership

- Relationships with teachers based on the process of exchange
- To the teacher the interactions is short-lived and limited to the exchange transaction
- Make use of rewards and inducements
- Have no wider impact on behaviour of teachers or school outcomes

#### Limitations:

- Does not engage teachers beyond the immediate gains arising from the transaction
- Does not result in long-term commitment to the values and vision being promoted by principals
- Focuses on policy formulation and pays little attention to the implementation of policy
- Underestimates the significance of both rational and collaborative processes
- Relies heavily on power, conflict and manipulation neglects other standard aspects of an organisation
- Stresses the influence of interest groups on decision-making giving little attention to the institutional level

Subjective model	
<ul style="list-style-type: none"> <li>• Focuses on the individuals and their perceptions in the organisation rather than the total institution or its subunits</li> <li>• Organisations are complex units that reflect the individuals subjective and selective perceptions derived from their values, beliefs, experience and background</li> <li>• Organisations are social constructions as they emerge from the interaction of their participants</li> <li>• Organisations have different meanings for each of their members and exist only in the experience of those members</li> <li>• Conflict is regarded as the product of competing values</li> <li>• Structure is not fixed or predetermined it is a product of human interaction</li> <li>• Organisations are the products of action and its cause</li> <li>• Social realities are constantly created and shaped because of the variable nature of human behaviour</li> <li>• Deny the existence of organisational goals and emphasise the significance of individual purposes</li> <li>• No organisation objectives only individual objectives</li> </ul>	<p><b>Leadership - principles</b></p> <ul style="list-style-type: none"> <li>• Have own values, beliefs and goals</li> <li>• Pursue own interest</li> <li>• May impose their interpretations of events on other members of the institution</li> <li>• Personal qualities of individuals more important than their official position</li> <li>• Leadership is the product of personal qualities and skills not an automatic outcome of official authority</li> </ul> <hr/> <p><b>Post-modern leadership</b></p> <ul style="list-style-type: none"> <li>• Recent model no generally agreed definition</li> <li>• Leaders should respect , and give attention to, the diverse and individual perspectives</li> <li>• Avoid reliance on the hierarchy, power is distributed</li> <li>• Multiple visions and diverse cultural meanings</li> </ul>
<p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Strongly normative, reflect attitudes and beliefs of their supporters</li> <li>• No clear indication of the nature of the organisation –only people can have goals, no organisational goals or objectives</li> <li>• Leaders only need to acknowledge the individual meanings placed on events by members</li> </ul>	

Ambiguity model	
<ul style="list-style-type: none"> <li>• All the models that stress uncertainty and unpredictability in organisations</li> <li>• Emphasis on instability and complexity of institutional life</li> <li>• No clarity over objectives of institution and processes not understood</li> <li>• Participation of members takes place according to the nature of the topic and the interest of potential participants</li> <li>• Decision-making occurs within formal and informal settings where participation is fluid (members move in and out of decision-making opportunities)</li> <li>• Lack clarity about the goals of the organisation. Inconsistent, vague and opaque objectives</li> <li>• <b>Problematic technology in that the processes are not properly understood (basic technology available in schools is not understood because its purpose is only vaguely understood)</b></li> <li>• <b>As the related technology is so unclear the processes of teaching and learning are clouded in ambiguity</b></li> <li>• Organisations are characterised by fragmentation and loose coupling( lacks “glue” that holds everything together)</li> <li>• Organisational structure is regarded as problematic. Uncertainties about authority and responsibility of individual leaders. More complex the structure of the organisation the greater potential for ambiguity</li> <li>• Tend to be ideal for professional client-serving organisations. Teachers are expected to be responsive to the needs of the learners rather than operating according with managerial prescriptions leads to climate of ambiguity</li> <li>• Uncertainty arising from external context (parents) adds to ambiguity of the decision-making process – environmental turbulence</li> </ul>	<p><b>Leadership - principles</b></p> <ul style="list-style-type: none"> <li>• Ambiguity of purpose – no clear goals</li> <li>• Ambiguity of power – leaders are participants</li> <li>• Ambiguity of experience – outcomes depend on other factors as the behaviour of the leader</li> <li>• Ambiguity of success – difficult to measure achievements of leaders</li> <li>• Above ambiguities makes it difficult to distinguish between success and failure</li> </ul> <hr/> <p><b>Contingent leadership</b></p> <ul style="list-style-type: none"> <li>• Alternative approach</li> <li>• Acknowledge diverse nature of school context</li> <li>• Leaders adapt their style to the diverse and unique nature of the school context</li> </ul>

Ambiguity model	
<ul style="list-style-type: none"> <li>• Unplanned decisions, no logical solution to problems- decisions have no clear focus</li> <li>• Stress the advantages of decentralisation –difficult to sustain, leaders are responsible for all aspects of the institution</li> </ul>	<ul style="list-style-type: none"> <li>• Represent a mode of responsiveness</li> <li>• Requires effective diagnosis</li> <li>• Pragmatic, no overt sense of the ‘big picture’</li> </ul>
<p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Analytic or descriptive approaches</li> <li>• Difficult to reconcile with the customary structures and processes of school</li> <li>• Offer little practical guidance to leaders in educational institutions</li> </ul>	
<ul style="list-style-type: none"> <li>• Mirror reality, organisation does not operate as anarchies</li> <li>• Exaggerate the degree of uncertainty in educational institutions</li> <li>• Less appropriate for stable organisations</li> </ul>	

Cultural model	
<ul style="list-style-type: none"> <li>• Beliefs, values and ideology are at the heart of the organisation</li> <li>• Individuals ideas, beliefs and value-preferences influence how they behave and view the behaviour of others</li> <li>• Norms become shared traditions and communicated within the group, reinforced by symbols and ritual</li> <li>• Symbols are a key component of the culture of all schools and central to the process of constructing meaning</li> <li>• Culture defines the unique qualities of individual organisations</li> <li>• Empowerment of leaders and their acceptance of responsibility               <ul style="list-style-type: none"> <li>❖ Conceptually or verbally: use of language and expression of aims</li> <li>❖ Behaviourally: ceremonies, rules, support mechanisms and social interaction</li> <li>❖ Visually or materially: uniforms, mottoes, memorabilia and crests</li> </ul> </li> <li>• Assumes the existence of heroes and heroines who embody the values and beliefs of the organisation</li> <li>• Each school has its own distinctive culture, dependent on the mix of values, beliefs and norms prevalent in organisation</li> <li>• Culture of a school is usually expressed through its goals</li> <li>• Core values help to determine the vision of the school</li> <li>• Vision is expressed in a mission statement which in turn leads to specific goals</li> <li>• Two distinct features of structures. Individual roles are established according to recommended patterns of relationship and there is structure of committees and other bodies</li> </ul>	<p><b>Leadership – principles</b></p> <ul style="list-style-type: none"> <li>• Responsible for generating and sustaining culture and communicating core values and beliefs within the organisation and to external stakeholders</li> <li>• Leaders have own values and beliefs arising from experience</li> </ul> <p><b>Moral leadership</b></p> <ul style="list-style-type: none"> <li>• Critical focus on the values, morals, beliefs and ethics of leaders themselves</li> <li>• Authority and influence is derived from what is right and good</li> <li>• Develop commitment of followers</li> <li>• Leaders expected to behave with integrity</li> <li>• Goals are underpinned by explicit values</li> <li>• Based on normative rationality</li> <li>• Moral imperative that principals face is the transformation of the institution into a learning community</li> </ul>
<p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• May lead to ethical dilemmas, regarded as the imposition of a culture by other leaders or members of the organisation</li> <li>• Focussing on symbols as rituals and ceremonies may lead to other elements of the organisation being underestimated</li> <li>• May lead to dissonance</li> </ul>	
<ul style="list-style-type: none"> <li>• May be unduly mechanistic, assuming that leaders can determine the culture of the organisation</li> <li>• Symbols may misrepresent the reality of the school</li> <li>• Difficulties when teachers do not support the values of the leader</li> </ul>	

\* Adapted from Bush (2003, pp. 37 - 175, 186 - 189).



## Addendum 2.2 Leadership styles\*

Leadership styles					
Strategic leadership	Instructional leadership	Invitational leadership	Ethical leadership	Learning-centred leadership	Political leadership
<ul style="list-style-type: none"> <li>• Focuses on school improvement and effectiveness</li> <li>• Driving force is to understand, interpret and act on change</li> <li>• Is concerned with direction-setting, planning, broad dimensions of the organisation and use medium- to long term time framework</li> <li>• Translate purpose into vision, strategy into action</li> <li>• Align people and organisation to strategy</li> <li>• Determine effective intervention points</li> <li>• Develop strategic capabilities and approaches</li> <li>• Change process the mindset and values will also change</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on the direction of leadership</li> <li>• Teaching and learning is the prime purpose</li> <li>• Underestimates the other important purposes of education</li> <li>• De-emphasises less academic aspects</li> <li>• Focuses on the “what” rather than the “how” in that respect it is limited and partial</li> </ul>	<ul style="list-style-type: none"> <li>• Focuses on the educator’s actions, understandings</li> <li>• Appreciates individuals’ uniqueness and potential</li> <li>• Encourage, sustain and extend the contexts in which imaginative acts of hope thrive</li> <li>• Foundations form the base and support for ongoing practices, programmes and policies</li> <li>• Assumptions form what people are like and how they are to be treated</li> <li>• Educating in democratic society based participation</li> <li>• Inviting messages that tell people they are valuable, able, and responsible and can behave accordingly</li> <li>• Messages are communicated through, people, places, policies, programmes and processes</li> </ul>	<ul style="list-style-type: none"> <li>• Takes into account the human dimension</li> <li>• Respect the rights of others – civic dimension</li> <li>• Educators have specific responsibilities- academic dimension</li> <li>• Teaching and learning must be of high level- academic dimension</li> <li>• Leadership dimension- affecting the core work of teaching and learning</li> <li>• Three foundational virtues for leadership: responsibility, authenticity and being present</li> <li>• Virtues are applied to five dimensions</li> </ul>	<ul style="list-style-type: none"> <li>• Focuses on development</li> <li>• Desire and responsibility to improve quality of teaching and learning</li> <li>• Influence teachers to have effect on students learning</li> <li>• Involves developing and supporting colleagues growth as teachers</li> <li>• Leadership is an enabling process</li> </ul>	<ul style="list-style-type: none"> <li>• Requires familiarity with the strategies and tactics of power and conflict</li> <li>• Map political terrain</li> <li>• Make use of formal and informal power</li> <li>• An clear agenda is required</li> <li>• Move when the time is right</li> <li>• Use information as ammunition</li> <li>• Use structure as political asset</li> <li>• Befriend opponents</li> <li>• Create arenas to air and solve problems</li> <li>• What is right is often relative</li> </ul>

Leadership styles				
Entrepreneurial leadership	Distributed leadership	Emotional leadership	Poetic leadership	Constructivist leadership
<ul style="list-style-type: none"> <li>• Manages and organises with initiative and risk</li> <li>• Leadership attributes are descriptive</li> <li>• Focus on financial management</li> <li>• Communication skills are important</li> <li>• Motivate themselves and others</li> <li>• Have a vision</li> <li>• Does what ever it takes to transform idea into reality</li> <li>• Business is operated and grown from the concrete manifestation of their unique idea</li> <li>• Tolerance for risk</li> <li>• Desire for control</li> <li>• Staff have incentives to act more pragmatically</li> <li>• Control system rely additionally on plans and forecasts</li> <li>• Communication takes place regardless of formal channels</li> <li>• Creativity throughout the organisation is encouraged</li> <li>• Organisational culture fosters innovation</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple sources of guidance and direction</li> <li>• Following the contours of expertise in an organisation, made coherent through a common culture</li> <li>• Focuses on how leadership practice is distributed among formal and informal leaders</li> <li>• Engaging many people in leadership activity</li> <li>• Additive: is concerned with the dispersal of tasks among participants within an organisation</li> <li>• Holistic: Interdependence of those providing leadership</li> <li>• Primarily a way of analysing leadership activity in schools</li> <li>• Analytical tool that implies wider decision-making, increased commitment to organisational goals and strategies</li> <li>• Diminishes teacher alienation</li> <li>• Collaboration and collegiality have positive effects on upon teachers' self-efficacy and levels of moral</li> <li>• Encourages the introduction of reform</li> <li>• Results in positive effects on pedagogy, school culture and educational quality</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership is inherently and inescapably emotional</li> <li>• Leadership begins and ends with the self</li> <li>• Interactions are affected by emotional experience of identity</li> </ul>	<ul style="list-style-type: none"> <li>• Symbols are important</li> <li>• Revisit and renew historical roots</li> <li>• Convey cultural values and beliefs</li> <li>• Convene and encourage rituals</li> <li>• Celebrate key events</li> <li>• Use of picture words and telling of stories</li> <li>• Use of people that set example</li> </ul>	<ul style="list-style-type: none"> <li>• Reciprocal, purposeful learning and action in community</li> <li>• <b>Reciprocal:</b> being invested in and responsible for the learning of others to assume similar responsibility for your own learning</li> <li>• <b>Purpose:</b> sharing a vision, set of beliefs and goals about teaching and learning</li> <li>• <b>Learning:</b> constructing meaning and knowledge through dialogue, reflection, inquiry and action</li> <li>• <b>Community:</b> Composed of a group of people who share common goals, aspirations for the future and care about each other</li> <li>• Leaders create conditions for mutual trust, respect and shared work</li> <li>• Learning, teaching and leading are intricately intertwined</li> </ul>

\* Adated from Beatty (2005, pp. 122 - 123); Davies and Davies (2005, pp. 10 - 28); Deal (2005, pp. 113 - 119); Everard, Norris and Wison (2004, pp. 21 - 22); Harris (2005, pp. 165 - 169); Hentsche and Galdwell (2005, pp. 145 - 156); Lambert (2005, pp. 95 - 98); Leithwood and Jantzi (2005, pp. 38 - 39); Novak (2005, pp. 44 - 46); Southworth (2005, pp. 75 - 77, 88 - 89); Starratt (2005, pp. 61 - 72).

**Principals' influences on Teacher Professional Development  
for the integration of Information Communication  
and Technologies in schools**

2008

Dear Participant

I would like to thank you for participating in an in-depth interview on the principals' influences through TPD for the integration of ICT. The data gained from the interviews became a crucial and valuable component of my research.

As your participation in this research project is voluntary and confidential no information will be revealed that will allow your identity to be established.

The results from this study will be used to identify the influence that principal's have on teacher's integration of ICTs in their teaching and learning practices as part of their professional development. By identifying the influences, strategies may be developed that will aid principals to integrate and sustain effective ICT through TPD in their schools.

Hereby you are asked to review the transcribed interview to check for accuracy of presentation and sign this form as confirmation.

Under no circumstances will the identity of interview participants be made known to any parties/organisations that may be involved in the research process and/or which has some form of power over the participants.

Participant's signature..... : Date: .....

Researcher's signature ..... : Date: .....

Yours Sincerely  
M.P. van Niekerk



**Principals' influences on Teacher Professional Development  
for the integration of Information Communication  
and Technologies in schools**

April - August 2007

Dear Participant

You are invited to participate in a research project aimed at determining the influence that principals have on teacher professional development as indicator for the integration of ICT in schools. The information obtained from this study will help to assess whether teachers use ICT in their teaching and learning in order to empower them for the 21<sup>st</sup> Century in a South African context.

As the principal's influence from various schools are multidimensional, is it necessary to identify the barriers and enablers in each domain of the teaching environment which will determine the integration of ICT by teachers and the level of teacher development. Your participation in this research project is voluntary and confidential. You will not be asked to reveal any information that will allow your identity to be established, unless you are willing to be contacted for individual follow up interviews. Should you declare yourself willing to participate in an individual interview, confidentiality will be guaranteed and you may decide to withdraw at any stage should you wish not to continue with an interview.

The results from this study will be used to identify barriers and enablers that principal's experience in the integration of ICT by teachers as part of their professional development. By identifying the barriers and enablers, strategies may be developed that will lead to the sustainability of effective use of ICT by teachers in schools.

If you are willing to participate in this study, please sign this letter as a declaration of your consent, i.e. that you participate in this project willingly and that you understand that you may withdraw from the research project at any time. Participation in this phase of the project does not obligate you to participate in follow up individual interviews, however, should you decide to participate in follow-up interviews your participation is still voluntary and you may withdraw at any time.

Under no circumstances will the identity of interview participants be made known to any parties/organisations that may be involved in the research process and/or which has some form of power over the participants.

Participant's signature..... : Date: .....

Researcher's signature..... : Date: .....

Yours Sincerely  
M.P. van Niekerk



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## Ethics clearance document