


Soloway, E. 2002. Palm-sized devices are the personal computers of choice, Colloquium Series, MIT Media Lab, 12 November.


### Annotated Bibliography

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<tr>
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<th>Author(s)</th>
<th>Title and Source</th>
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<tbody>
<tr>
<td>1</td>
<td>Aarnos, E.</td>
<td>Plans to Develop Teaching from Pre-School to Senior Level. Readings for Comprehensive School Teachers. University of Jyväskylä, Institute of Chydenius, Finland. The report consists of several articles on distance and multimedia learning in teacher education and new challenges for teachers in mathematics and in environmental, physical, and media education.</td>
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<td>4</td>
<td>Ahtee, M., J. Lavonen, and V. Meisalo.</td>
<td>New Challenges of Teacher Education. XIII Conference of Research on Math and Science Teaching, University of Helsinki, Department of Teacher Education, Helsinki. The publication consists of 20 articles on new learning environments in mathematics and science teaching and teacher education in Finland, Estonia, and Tanzania. The report promotes problem solving and describes multimedia and new information technology approaches in teaching and teacher education. Seven articles are in English, the others are in Finnish.</td>
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<td>5</td>
<td>Alexander, G., and R. Mason.</td>
<td>Innovating at The OU: Resource-Based Collaboration Learning On-Line. Open University, Centre for Information Technology in Education, Milton Keynes, U.K. This is a brief account of a selection of the early online teaching projects produced by the Open University.</td>
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<td>6</td>
<td>Anzalone, Stephen, ed.</td>
<td>Multi-channel Learning. Washington, D.C.: Education Development Center. A collection of papers that discusses how the application of several complementary media can enhance learning in developing countries. Examples of several different projects in India, the Philippines, South Africa, and the Dominican Republic are also included.</td>
</tr>
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<td>7</td>
<td>Aretio, L. G.</td>
<td>1993. &quot;Principles, Structure, and Evaluation of the Teacher Training Programme at the Spanish UNED.&quot; <em>Istruzione a Distanza</em> 8-9 (August–December): 145-59. Over the past several years, the UNED (the Distance University of Spain) has autonomously organized a teacher-training program that in 1992–93 comprised 57 different courses. In describing these initiatives the article offers an evaluation of the program.</td>
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<td>8</td>
<td>Asian Development Bank.</td>
<td>1990. Distance Education in South Asia. Proceedings of the Round Table Conference on Distance Education, Islamabad. This is a set of detailed papers including a number on using ODL systems to further teacher education.</td>
</tr>
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<td>9</td>
<td>Baker-Albrough, P. R.</td>
<td>1993. &quot;Definitions of International Learning: What We See Is Not What We Get.&quot; <em>Journal of Instruction Delivery Systems</em> 7(3): 36–9. This is a discussion of interactivity in learning situations using computers. It covers areas that include challenging the definitions of knowledge, technology, and interactivity and their implications for instructional design in this medium.</td>
</tr>
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</table>
Banks, F. R. J. 1994. *An Innovative Initial Teacher-Education Programme for Graduates at the UK Open University: Distance Learning and New Technologies in Education.* Proceedings of the First International Conference on Distance Education in Russia, Association for International Education, Moscow.

Using specially prepared distance-learning resources combined with school-based work, the students in this course are prepared for careers in teaching with an emphasis on shortage subject areas. This paper describes the design, teaching materials, and assessment strategy in this innovative course.


This is an overview of the development of distance learning. The conclusion suggests that new interactive technologies will permit a new generation of ODL programs that are significantly less institutionalized than the “industrial-type production methods” that characterized ODL in the twentieth century.


An analysis of the different media available for use in open and distance learning and the likely development of future technologies.


The desired components of teacher competence in Information Technology are identified and set against the current situation among teachers in the United Kingdom. Strategies to bridge the gap between the two are outlined, and some current projects by the National Council for Educational Technology designed to address this training need are discussed.


The article describes an interview with Lena Haglund, a teacher in the Health University of Linköping in Sweden, who started distance education for Norwegian work therapists.


A description of interactive radio functions and an analytical overview of a wide range of programs developed in different countries in the 1980s and 1990s.


A description of how to establish an open learning teacher-training course for elementary school teachers. These teachers have to teach all subjects in the United Kingdom national curriculum, and the course satisfies strict government requirements.


This is a collection of articles presented at a seminar on language and other related issues in distance education.


In this publication the authors call for the implementation of new technologies in primary teacher training. Both authors work at the Edith Stein College (the Netherlands), a primary teacher-training college, which provides telematic services for hundreds of Dutch primary schools and trains its student teachers to use ICT in teaching practice.


This describes the INSITE Project, which uses online searches and e-mail to help various communities, from students and teachers to school districts and higher education, exchange information.
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<tr>
<td>21</td>
<td>Butcher, Neil.</td>
<td>1996. “Teacher Education Offered at a Distance in South Africa: Problems and Possibilities.” <em>Open Praxis</em> 2: 5–8.</td>
<td>This is an overview of developments in South Africa. The author explores the way in which the growth of new communications technologies has made the notion of distance difficult to interpret.</td>
</tr>
<tr>
<td>22</td>
<td>Cabrero, Daniel, P. Martin, C. Simon, and C. Viorreta.</td>
<td>1994. “Teacher Training through Distance Methods Using Telematics.” <em>Estudio de un Caso</em> 9: 31–9.</td>
<td>This paper is concerned with the first in-service distance teacher-training course to use telematics for computer training. The course is offered by the department of teaching in the province of Catalunya, Spain. The paper describes the methodology, results, and evaluation of the first cohort of 111 students; it draws various conclusions about the design and execution of other such courses.</td>
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<td>23</td>
<td>Cantelon, J. E.</td>
<td>1995. “The Evolution and Advantages of Distance Education.” In M. H. Rossman and M. E. Rossman, eds., <em>Facilitating Distance Education</em> 67(Fall): 3–10, San Francisco: Jossey-Bass Publishers.</td>
<td>This article briefly traces the history of distance education and demonstrates how it transcends time and space.</td>
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<td>25</td>
<td>Carlsson, R.</td>
<td>1991. “Third-Generation Distance Education Opens New Pedagogical Opportunities: Teachers Give Up to Be a Knowledge Megaphone.” <em>Utbildningstidningen</em> 1: 10–12.</td>
<td>This article describes new methods such as computer-conferencing systems and computer-assisted learning and scrutinizes the new role of teachers in these environments.</td>
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<tr>
<td>26</td>
<td>Carmo, Hermano.</td>
<td>1992. <em>Teachers’ Distance In-service Training: The Experience of Universidade Aberta</em>. Universidade Aberta, Lisbon.</td>
<td>The aims and context of the in-service distance teacher-training program are discussed in conjunction with the educational materials produced. The report then focuses on three support systems used: mail, telephone, and face-to-face contact with teachers analyzing aspects of the target group and its learning results. The report concludes with an evaluation and recommendations.</td>
</tr>
<tr>
<td>27</td>
<td>———.</td>
<td>1997. “Higher Education at a Distance. The World Context.” Universidade Aberta, Lisbon.</td>
<td>The author combines the contributions of the sociology of organizations, the sociology of education, and a systemic approach to analyze two systems of distance education, the Spanish and Portuguese.</td>
</tr>
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<td>28</td>
<td>Chivore, B. R. S.</td>
<td>1993. “The Zimbabwe Integrated Teacher Education Course.” In H. Perraton, ed., <em>Distance Education for Teacher Training</em>. New York: Routledge: 42–66.</td>
<td>This case study looks at the organization and management as well as the costs and funding of the ZINTEC Program for pre-service initial training of teachers. It is part of a collection of case studies that examines these issues.</td>
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<td>29</td>
<td>Chungie, X., and Z. Yuxia</td>
<td>&quot;Satellite Television Education in China: A Project of Teacher Training through Distance Education.&quot; Media Technology for Human Resource Development 6(2): 113–17.</td>
<td>This article describes a project to upgrade teacher qualification through use of satellite television. It suggests that this method is more effective.</td>
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<td>30</td>
<td>Collis, Betty</td>
<td>Tele-learning in a Digital World: The Future of Distance Learning. Toronto: International Thomson Computer Press.</td>
<td>This book examines tele-learning in depth, taking a thematic approach. It examines the many scenarios where tele-learning occurs, such as online learning environments, professional development, and distance education; and discusses those involved in tele-learning. The book shows that tele-learning offers an opportunity to develop new pedagogies and improve old ways of learning. Although the book has a broad perspective, it is relevant for those involved in teacher education.</td>
</tr>
<tr>
<td>31</td>
<td>Compte, Carmen</td>
<td>&quot;Telelangues: A New Formula for 'Close' Distance Teaching.&quot; Instruzione a Distanza 8-9 (August-December): 61–70.</td>
<td>The request of many foreign language teachers for training through video materials has led to the development of a new distance-teaching formula in France. The system was tried out experimentally in 1994 as part of a “close” distance program. It will offer original solutions for three typical problems in training foreign language teachers: preparing them as teachers, preparing them to use video, and giving them this preparation at a distance.</td>
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<tr>
<td>32</td>
<td>Cote</td>
<td>Telematics on the <a href="http://WWW">WWW</a>. <a href="http://www.ex.ac.uk">http://www.ex.ac.uk</a></td>
<td>This website contains several papers on IT, communications, and teacher education.</td>
</tr>
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<td>33</td>
<td>Creed, C.</td>
<td>Distance Education in the E-9 Countries. Paris: UNESCO.</td>
<td>This is a report on distance education in a range of European countries.</td>
</tr>
<tr>
<td>34</td>
<td>———</td>
<td>The Use of Distance Education for Teachers. Cambridge: the International Extension College.</td>
<td>This is a mapping report of international experience in the use of distance learning for teacher education.</td>
</tr>
<tr>
<td>36</td>
<td>Dafgård, L., and P. Becker</td>
<td>&quot;High School English Course Using Distance Education with Computers and Modem.&quot; Datorn i Utbildningen 2: 39–41.</td>
<td>This article describes how to use computers and modems in English-language courses in high school, and how to use distance learning for teachers’ in-service training.</td>
</tr>
<tr>
<td>37</td>
<td>Dahlgren, Ethel</td>
<td>Staff Training and the Development of Distance Education Courses.&quot; Open Learning 11(3): 38-46.</td>
<td>This article examines elements that contribute to effective staff training for the development of distance-education courses. It addresses, in particular, staff training at traditional institutions and adapting courses for teaching at a distance.</td>
</tr>
<tr>
<td>38</td>
<td>Dahlin, S., and T. Hudner</td>
<td>Distance Learning and New Media: How to Teach Using Visual Communication. University of Uppsala, Institute of Teacher Education, Sweden.</td>
<td>This report describes how to use visual communication and new media in distance learning.</td>
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</table>
A comprehensive overview of how knowledge media can contribute to the renewal of higher education. A range of international case studies is used to illustrate how the concerns traditionally associated with distance-learning institutions are now relevant to all universities. |
European teacher educators were informed of case studies that use telematics for teacher education. Their views were solicited on the transferability of such activities to their own courses and countries. Research showed that all countries would use the telematic applications described, and many were able to contribute complementary cases of their own. |
This article advises that Malaysia must take responsibility for the provision of its own higher education or send its students abroad. |
This book presents a general overview of teacher-education issues. |
This article presents a comparison between on-campus and distance-education students and suggests that there are no learning performance differences. However, the distance-education students reported insufficient provision for feedback. |
This paper advocates a student-centered approach to designing distance-education courses for television. It advises instructors adapting a traditional course to distance-learning methodologies. |
This is a review by the Director of the United Kingdom’s Open University, Knowledge Media Institute, of the future of new technologies for teaching and learning. |
This document defines ODL and target areas for its application within an outline for SOCRATES-funded projects. |
This article suggests an outline for new directions for ODL. |
This book contains a collection of papers outlining the different political and cultural contexts of a number of ODL institutions, at all levels, around the world. |
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<td></td>
<td>This document provides an overview of processes and cost issues.</td>
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<td>This is one of the few publications that links teacher education and the potential of new communication technologies. Although uneven in quality, the contributions include some useful analyses, including a strong argument for fresh research in the field.</td>
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<td></td>
<td>The article describes the pedagogical use of computers in teacher education.</td>
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<td>This is a review of new technologies and connectivity issues.</td>
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<tr>
<td>53</td>
<td>Frankl, J., and B. O'Reilly, eds.</td>
<td>1996. <em>Lifelong Learning, Open Learning, Distance Learning</em>. Proceedings of the Fifth European Distance Education Network (EDEN) Conference, Poitiers, France, 8–10 July. EDEN Secretariat, Milton Keynes, U.K.</td>
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<td></td>
<td>These proceedings contain many papers, which form a good introduction to the area of ODL in general.</td>
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<td>This brief article describes the importance of quality in the design of distance-education courses.</td>
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<td>This article discusses the use of new technologies in teaching but focuses on the need for good teaching to successfully use these in the classroom. Fulton also discusses the education of teachers through distance learning.</td>
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<td>The UNED distance-teaching program offers participants real-time instruction that is multipurpose, customized, and interactive. It is based on radio courses broadcast nationally, copies of which are available on audiocassette, as well as text and video. National television broadcasts or videos, introduced for pedagogical reasons, now complete the package.</td>
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<td>This paper reports on a project commissioned by the National Council for Educational Technology in the United Kingdom that investigates the potential for interactive video to support students and mentors in school-based initial teacher training. Its results derive from an empirical study in 26 schools currently using interactive video in staff development.</td>
<td></td>
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<td>58</td>
<td>George, Rigmar.</td>
<td>1995. “Open and Distance Education as Social Practice.” <em>Distance Education</em> 16(1): 24–42.</td>
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<td></td>
<td>The paper argues that success in open or distance education is dependent on linguistic expertise of the educational context.</td>
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<td>59</td>
<td>Gonzalez, P.</td>
<td>Teaching in Two Environments: A Case Study Comparing Face-to-face and Online Instruction. Distance Education Symposium 3: Instruction. Selected papers presented at the Third Distance Education Symposium, Pennsylvania State University, University Park. This case study describes the delivery of a sociology course taught by the same instructor in two environments: face to face and online. Classroom interaction in both environments is discussed in order to explore the relationship between teacher and learners.</td>
</tr>
<tr>
<td>62</td>
<td>Harrington, H. L., and R. S. Hathaway</td>
<td>“Computer Conferencing, Critical Reflection, and Teacher Development.” Teaching and Teacher Education 10(5): 543–54. This article studies how conferencing helps develop critical reflection in pre-service teacher education. The results indicate that conferencing does allow students to become more aware of others’ views and consequently to reflect on their own.</td>
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<td>63</td>
<td>Hawkridge, D.</td>
<td>Comparing Educational Media. Knowledge Bank Paper No. 9, International Monetary Fund, Department for International Development. Washington, D.C. <a href="http://www.imfundo.org/Hawkridge/contents.htm">http://www.imfundo.org/Hawkridge/contents.htm</a> This paper examines the relative costs of different types of media used to deliver ODL. It also provides a general overview of how text, audio, video, and computer technologies are being used to support distance education in developing countries.</td>
</tr>
<tr>
<td>64</td>
<td>Hedberg, J. G., and B. Harper</td>
<td>“Supporting and Developing Teachers through Telecommunications.” Educational Media International 30(2): 88–93. This article details various projects being undertaken in Australia that use multimedia technologies to link information sources ranging from lecturers and libraries to schools and teacher trainees.</td>
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<td>65</td>
<td>Henderson, Lyn, and I. Putt</td>
<td>“The Remote Area Teacher Education Programme (RATEP). Cultural Contextualisation of Distance Education through Interactive Multimedia.” Distance Education 14(2): 212-31. This article describes a fully developed open learning system developed to serve teachers in remote island communities. It applies culture to the design and use of new technologies.</td>
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<tr>
<td>66</td>
<td>Inglis, Alistair</td>
<td>Delivering Digitally. London: Kogan Page Ltd. This work examines the way in which new digital technologies can be incorporated into teaching and learning programs.</td>
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<td>67</td>
<td>Inquai, Solomon</td>
<td>“Refugees and Distance Education.” Convergences 23(3): 37–48. This paper defines distance education and its application to the refugee situation. Inquai outlines the history of distance education of teachers of refugees with examples from Somalia and Sudan.</td>
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<td>68</td>
<td>Jaeger, Michael</td>
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<td>Jennings, Z. D.</td>
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<td>73</td>
<td>Keegan, Desmond</td>
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<td>74</td>
<td>Kiviniemi, K.</td>
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<td>75</td>
<td>Kuitunen, H.</td>
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This article emphasizes the need for teacher training in computer use to guide students in the information society.

This report is a collection of articles on multimedia and distance-education approaches in class teacher education. It describes experiences in the teacher-education program, an alternative route to teaching.

A series of specialist contributions on all aspects of teacher education through open and distance learning.

This paper describes satellite delivery of three courses on special education using satellite delivery.

This document provides a wide-ranging review of World Bank activities.

This paper outlines a course to develop Computer Mediated Communication by distance teachers.

This is a review of the impact on teaching of a range of new technologies in higher education. Strong on conceptual analysis of the future of universities.

This is a description of the uses of a computer-conferencing system such as FirstClass in a professional development program for initial teacher training. The different ways the system is configured for subject support, classroom advice, and professional encouragement are all discussed and illustrated.

This is an analysis of how web and electronic conferencing environments can contribute to the professional development of teachers. It includes illustrative case-study material.

This is an overview of the ways in which new forms of ICT can contribute to teaching, learning, and professional development.

This is a description of the use of open and distance-learning techniques to support the requirements of teacher professional practice in Albania. The article describes the acute resource problems and discusses how low-cost materials may be combined with student-support structures to affect change quickly.

87 Leach, Jenny, and R. E. Moon. 1995. *Open and Distance Learning and Teaching in the Education and Training of Albanian Teachers.* Open University, Centre for Research in Teacher Education, Milton Keynes, U.K.

This is an overview of teacher education in Albania and of applying distance-learning systems to the context of in-service training. This work is useful in showing the importance of addressing the social and cultural context in designing programs.


This is a detailed case study of the development and implementation of an open and distance-learning, pre-service teacher-training program at the United Kingdom’s Open University.


This paper was presented to the Second European Conference on Information Technologies in Education and Citizenship: “A Critical Insight,” Barcelona, June 26, 2002.


This is a study of the use of state-of-the-art hand-held computers as part of an integrated teacher professional development program.


An account of research carried out in Egypt and South Africa on teachers’ use of mobile technology for professional development. The research explores both the nature of the technology and the pedagogical implications for future models of teacher education.


This is an overview of all aspects of open and distance learning from a policy context.


This is the standard guide on how to incorporate activities into open and distance-learning texts.


This is a selection of articles on established means of developing open and distance-learning programs. It does not include discussion of new interactive technologies.

This is a collection of papers reporting on the current situations and views in open and distance learning. Information spans a large area from the general through media use and course design to student support and evaluation.


This is a cost and performance comparison among campus-based, field-based, and distance-education programs, which finds that while distance education costs the same per student as campus-educated students, it allows many more teachers to qualify using the same materials.


This article describes several “multi-point” interactive television conferences that have taken place in British Columbia, Canada. These early experiences are analyzed in terms of pedagogical styles and considerations related to types of interaction among conference participants.


This paper presents a case study that looks at factors affecting students' learning and examines differences between two classes that used two different types of media for instruction. The author found that students' learning experiences were similar regardless of the media used.


An exploration of strategic issues around the development of ICTs relevant to debates around ICT and education.


This is an introductory survey taken of communication media that includes a section on electronic conferencing.


This is a study of distance education that gives significant attention to the role of open and distance learning in teacher education.


This article details the background to the approach of using e-mail for tutor-student communication. The article discusses the various implications of this system.


This is a review of how to create online courses.

104 Meisalo, V. E. 1996. The Integration of Remote Classroom. A Distance Education Project Using Video Conferencing. University of Helsinki, Department of Teacher Education.

This report considers a Research and Development Project on the integration of remote classrooms for distance education using video-conferencing techniques. The report is related to a case where a tiny village is connected through ISDN link to the Teacher Training School of the University of Helsinki some 1,000 kilometers away. The pedagogical situation in using new technologies is very demanding for the teachers, and a research group at the Department of Teacher Education in the University of Helsinki supports the actions. The report describes the initiation phase of the project and its functions during the first year of action from the viewpoints of the teachers, the pupils, and the parents.
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<th>Author(s)</th>
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<tr>
<td>107</td>
<td>Moon, R. E.</td>
<td>1996. “Practical Experience in Teacher Education: Charting A European Agenda.” <em>European Journal of Teacher Education</em> 19(3): 217–250.</td>
<td>This is an overview of the increased importance accorded to school-based experience in teacher-education programs—the paper argues for greater elaboration of the “community of practice” in the design of teacher-education courses.</td>
</tr>
<tr>
<td>108</td>
<td>———.</td>
<td>1997. “Open Learning and New Technologies in Teacher Education: New Paradigms for Development.” <em>European Journal of Teacher Education</em> 20(1).</td>
<td>This paper suggests that teacher education is undergoing significant transformation throughout Europe and that new national and international expertise and new methodologies in open and distance education will need to be developed.</td>
</tr>
<tr>
<td>113</td>
<td>Moon, R. E., and A. Shelton Mayes.</td>
<td>1995. “Integrating Values into the Assessment of Teachers in Initial Teacher Education and Training.” In L. T. Kerry and A. Shelton Mayes, eds., <em>Issues in Mentoring.</em> London: Routledge.</td>
<td>This chapter discusses the advantages of a competence model for assessment of initial teacher training. It also indicates the need to consider wider issues, such as which professional qualities are essential to a successful teacher and how to assess those qualities.</td>
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This publication describes the need for teacher education to be focused on the consequences of ICT for training and working of individuals. The teaching profession is shifting emphasis from delivering information to creating learning environments.


This online publication deals with the putative efficiency of telelearning. The analysis shows that there are no precise indications about the effects nor about the costs of telelearning, and therefore none about its efficiency. Effects are undetermined and costs are variable. Telelearning is expected to create (at least) the same kind of output as traditional teaching, although telelearning certainly can create richer opportunities and environments.


This paper describes the use of e-mail to provide mentoring for students.


The author presents a synopsis of current research in distance education in the United States. Topics include delivery of distance education in the United States, theoretical models, and policy research. An extensive list of references is also included.


This book provides a general overview of distance education, particularly as it relates to the development and implementation of large-scale projects. It includes sections on the development of learning materials and assessment of both students and programs.


This chapter provides an overview of the book that includes case studies of collaboration in distance education from several countries.


Although not specifically related to teacher education, the book covers a range of established procedures for open and distance learning.


An overview of issues surrounding the costs of implementing ICT into programs of open and distance learning.


This article begins with examples of mindlessness and mindfulness in daily life, and it proceeds to describe the negative effects of mindlessness in both traditional and distance education. Mindfulness in distance education is then described in terms of a dual challenge for teachers: how to teach at a distance, and how to teach teachers to teach at a distance.
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<th>No.</th>
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This is a case study of the use of open and distance learning. |
This is a collection of papers summarizing open and distance-learning experience in several African countries. Case-study information from secondary-education and teacher-training programs is included. |
This is a discussion of the results of a survey on teacher education, research, and evaluation in information technology and communication conducted between schools and universities. |
New legislation in 1989 dictated that all future teachers must hold a university degree and must undergo two years’ training at one of the IUMF (Instituts Universitaires de Formation des Maîtres) teacher-training institutions. This change has come about at a time of rapid economic, social, cultural, and technological evolution requiring new forms of initial and continuous education. The IUMF has responded to this challenge by implementing alternative forms of education including distance teaching. A number of initiatives are described. |
| 127 | Pereira, M. O. | 1993 | “Attitudes to Study in the Distance Teaching Context.” *Universidade Aberta*, Lisbon.  
The author analyzes the attitudes of students doing initial teacher training at Universidade Aberta, Portugal, regarding distance education, content organization, relevance of themes, resources, learning activities, and assessment. The majority of students express a favorable attitude to distance education and the course, in particular. |
This is an overview of contemporary issues in open and distance learning, including a chapter on teacher education. |
| 129 | Perraton, Hilary, and C. Creed | 1999 | *Distance Education Practice: Training and Rewarding Authors*. DFID Education Research Series, No. 33, London.  
This work focuses on the issue of training authors for distance-education materials. |
This is an overview of the main issues in developing open and distance-learning strategies at the policy level. |
| 131 | ——— | 2002b | *International Case Studies of Teacher Education at a Distance*. Paris: UNESCO.  
These are case studies focusing on Brazil, Burkina Faso, Chile, China, India, Mongolia, Nigeria, South Africa, and the United Kingdom. |
This is a set of guidelines for middle managers in education ministries and teacher-education institutions intending to expand teacher education through ODL. |

This article presents two examples of experiments in the integration of interactive multimedia into courses offered through the Open University (the United Kingdom).


The article gives a theoretical framework of basic skills for teachers when they use modern information and communication technology as a part of their work in open learning environments.


This paper supports the conviction that asynchronous computer conferencing enables a learner-centered approach to teaching in higher education and suggests two choices in organizing courses to benefit from it.


This is a description of how a private satellite system was used in a pilot study investigating resource sharing among institutions.


The COMMITT, Committee On Multimedia in Teacher Training is an advisory committee established by the Dutch Minister of Education. The report recommends the redesign of the learning process of the future and the role of ICT to support that learning process with a focus on teacher training. It presents a plan of action and a strategic framework to support efforts of teacher-training institutes to develop their own plans for enhancing the teaching and learning processes as well as its outcomes through the application of ICT.


This is a summary of developments in Chile, one of the most advanced Latin American countries in terms of telecommunications infrastructure. It is informative on the early stage development of the Enlaces Program, linking schools and teachers through a computer network.


This article presents the results of a survey on the experiences of both presenters and participants in interactive television for professional purposes. The negative effects of poor training and awareness of how to encourage and manage the interactivity are highlighted.


This is a discussion of the development and management of Teacher Oriented Television Education (TOTE) and its effectiveness in the Indian context.


This book provides an extensive guide to the selection, design, and support needed to create effective distance-learning materials. While the author primarily focuses on materials, he also provides some general background on open learning and open learning programs.
<table>
<thead>
<tr>
<th>No.</th>
<th>Author(s)</th>
<th>Title</th>
<th>Source</th>
<th>Description</th>
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<tbody>
<tr>
<td>142</td>
<td>Reddy, S.</td>
<td>“Educational Radio: Directions in the Pacific.”</td>
<td><em>Media in Educational Development</em> 19(1): 34–7.</td>
<td>This article gives a personal view of the use of radio as an educational medium in some island nations of the South Pacific with their distinctive cultures. It also outlines the costs, personnel, and facilities involved in its use.</td>
</tr>
<tr>
<td>143</td>
<td>Richier, André, A. Dumont, C. Hermant, and M. Riché.</td>
<td>“Education and Multimedia: The Actions of the European Union.”</td>
<td><em>European Journal of Teacher Education</em> 20(1).</td>
<td>This paper sets out the findings and recommendations of a task force that was set up by the European Commission to investigate the “Educational Multimedia.” It illustrates some of the strategic planning that has taken place across EU member states to coordinate work on new educational technologies to enhance teaching and learning.</td>
</tr>
<tr>
<td>146</td>
<td>Rowntree, Derek.</td>
<td>Exploring Open and Distance Learning</td>
<td>London: Kogan Page Ltd.</td>
<td>This is a useful and accessible outline of all aspects of open and distance learning from designing learning packages to tutor support and economic considerations.</td>
</tr>
<tr>
<td>147</td>
<td>Rowntree, Derek.</td>
<td>“Assessing the Quality of Materials-Based Teaching and Learning.”</td>
<td>Open Learning (June): 12–22.</td>
<td>This article examines the issue of quality assessment for distance education. The author suggests that distance-education methodologies cannot be judged in the same way as conventional, face-to-face teaching. He presents and discusses 20 questions for program evaluation.</td>
</tr>
<tr>
<td>148</td>
<td>Rumble, G.</td>
<td>The Management of Distance Learning Systems.</td>
<td>Paris: UNESCO/IIEP.</td>
<td>This is a classic text on an overview of systems management in ODL.</td>
</tr>
<tr>
<td>149</td>
<td>———</td>
<td>The Costs and Economics of Open and Distance Learning.</td>
<td>London: Kogan Page Ltd.</td>
<td>This is a review of cost analysis in open and distance-learning programs.</td>
</tr>
<tr>
<td>150</td>
<td>Rust, V. D., and P. Dalin.</td>
<td>Teachers and Teaching in the Developing World.</td>
<td>New York: Garland.</td>
<td>This work presents a general overview of the context of teachers in developing countries.</td>
</tr>
<tr>
<td>151</td>
<td>Russel, T. L.</td>
<td>Which Television Medium is Best for Distance Learning? The Rationale Being</td>
<td>In G. Davies and B. Samways, eds., Teleteaching: Proceedings of the IFIPTC3 Third Teleteaching Conference, Trondheim, Norway.</td>
<td>This paper discusses the perceptions of television and educational television and cites the example of VideoClass system as a low-cost good practice leading to good learning outcomes and teacher and student satisfaction.</td>
</tr>
</tbody>
</table>

This paper discusses in-service teacher education at a distance, based on text-based programs operated at several sites and supported by subject tutors. The author identifies student-learning difficulties, especially regarding self-directed learning, as a weakness of the programs.

153 SAIDE. 1995. *Teacher Education Offered at a Distance.* South African Institute for Distance Education, Johannesburg.

This is a national report prepared as part of an audit of teacher education across the country. The report contains a general discussion of issues associated with the future of open learning.


This is a review of a range of issues affecting development of higher education in Sub-Saharan Africa.


This is one of the first texts to look at the experience of using electronic conferencing in open and distance-learning programs.


This article provides a basic explanation of open and distance learning while applying ODL to the context of in-service teacher education as one of several professions seeking to provide ongoing personal and professional development.


In this paper the use of computer conferencing, an integral component of the U.K. Open University’s PGCE course, is described and evaluated, and ways in which electronic communications can be developed into an effective medium for enhancing new teachers’ competence and confidence are discussed.


This is a collection of papers that makes a thorough introduction to this ODL.


This article describes two approaches to student-based evaluations that were examined for their potential application to distance education and assesses some aspects of the instructional climate in distance education.


This paper discusses some issues affecting the evaluation of teaching and learning in distance-education programs. It is aimed particularly at post-secondary educators who are designing their classes to include a distance-education component.
<table>
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<tr>
<th>No.</th>
<th>Author(s)</th>
<th>Title and Source</th>
</tr>
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<tbody>
<tr>
<td>161</td>
<td>Smith, R., and M. MacIndoe</td>
<td>“Education and the Interactive Multimedia Technologies: The Remote Area Teacher Education Project (RATEP).” <em>Unicorn</em> 17(3): 139–45. This article describes the training, knowledge, funding, and technologies necessary to create quality multimedia software for distance education.</td>
</tr>
<tr>
<td>163</td>
<td>Soetaert, Ronald, L. Top, and G. Van Belle</td>
<td>“Creating a New Borderland on the Screen.” <em>Educational Media International</em>. 32(2): 62–8. This article deals with the outcome of an educational research project conducted at the University of Ghent’s Department of Teacher Training. The authors created new teaching materials for literature from a European perspective and concluded that the opening up of the traditional (national) literary canon should lead to a global revision of the literature course design and a revision of teaching, in general. In such a revision the multimedia hypertext structure should play a key role (see <a href="http://dewey.rug.ac.be">http://dewey.rug.ac.be</a>).</td>
</tr>
<tr>
<td>164</td>
<td>Soetaert, R., and G. Van Belle</td>
<td>“Schermen met Geletterdheid.” In R. Soetaert, and L. Top, eds., <em>Een Beeld van Belezenheid</em>. Sdu-Uitgevers, the Hague. In their article, the authors focus on the cultural and educational implications of hypermedia (for an English translation see the website: <a href="http://dewey.rug.ac.be">http://dewey.rug.ac.be</a>).</td>
</tr>
<tr>
<td>166</td>
<td>Sparks, J.</td>
<td><em>Project NETWORC Final Report</em>. Nevada State Department of Human Resources, Carson City. This report describes a project in which rural classes were linked through audio-conferencing, television, and fax. Student evaluation was positive, and there was a cost saving of over 50 percent per student.</td>
</tr>
<tr>
<td>167</td>
<td>Spitzer, D. R.</td>
<td>“Rediscovering the Social Context of Distance Learning.” <em>Educational Technology</em> 38(2): 52-56. This article argues that focus on the technical aspects of distance learning contributes to those methods being used less frequently. The author emphasizes the technical and human dimensions of distance learning, including resistance to change, user perspective, inertia, and entropy.</td>
</tr>
<tr>
<td>168</td>
<td>Stevenson, K., and P. Sander</td>
<td>“How Do Open University Students Expect to Be Taught at Tutorials?” <em>Open Learning</em> (June): 42–46. This article analyzes students’ expectations about various aspects of their tutoring at an Open University (United Kingdom) course. The study focuses on students’ attitudes toward teaching methods and their perceptions of a good lecturer. It concludes that tutoring can be improved through tutors’ reflections on content and delivery style based on student feedback.</td>
</tr>
<tr>
<td>169</td>
<td>Stewart, R. D.</td>
<td>“Distance Learning Technology.” In M. H. Rossman, and M. E. Rossman, eds., <em>Facilitating Distance Education</em> 67(Fall), San Francisco: Jossey-Bass Publishers: 11–18. This paper is an overview of technologies used to facilitate distance education. The author discusses a range of technologies but focuses primarily on computer-based options.</td>
</tr>
</tbody>
</table>

The report describes open learning environments in vocational teacher education and new applications of telecommunication.


An analysis of the cost implications of using distance education for teacher qualification upgrading in a range of Southern African countries.


The publication describes the idea and experiences of virtual school.


This report raises some key issues for teacher-education planners.


This is a compilation of papers on areas concerned with adult education. It is grouped into three sections: power, purpose, and outcomes; adulthood and learning; and learners' experience and facilitating learning.


This article explores issues of reform in teacher education.


This paper discusses the need for educators to adapt technologies, such as television, to education by providing interactivity and supplementary materials.


This paper presents an overview of the results of a survey (the Aggiornamento survey) on the use of information and communication technologies in education, initially focusing on vocational education.


This paper presents an overview of the potential for radio and television education in South Africa.


This is an overview of potential telematics applications covering a range of European contexts.

This article describes the experiences of IVLOS, Institute of Education, implementing tele-guidance in school-based teaching practice. It provides recent insights into the benefits and limitations of providing a structured tele-guidance approach to student teachers using telecommunications at home. Collaboration among peer student teachers appears to be critical and leads to changes in the teacher-training program.


This is an article on the Millennium Development Goals.


This paper deals with the development of ICT in primary and secondary education in Catalonia. The aspects of development presented and analyzed are teacher education: pre-service and in-service actions; and policies and organization.


This article discusses examples of the evaluation of media and technologies used at the FernUniversitat (Germany) for distance education.


This paper discusses the value of creating interactive materials for distance-education courses. The author argues that interactivity keeps students interested and engaged and therefore maximizes the learning potential.


This article describes the objectives, conceptual model, and architecture of this project that aims to integrate synchronous and asynchronous multimedia communication with other resources.

Williams, C. 2000. Distance Education and ICT: Teaching and Learning Online: A Literature Review. Occasional paper, University of Brighton.

A United Kingdom-focused review of the literature on distance education and ICT with emphasis on the delivery of an online professional development program.

Wort, Michael. 1995. The Promotion of Support Strategies for In-service Primary School Teachers in Tanzania through Distance Education. Dimensions of Development. Uppsala, Sweden.

This book describes a teacher-education project in Tanzania and distance-education applications in the project.

This article analyzes the changes that took place in learning and teaching strategies at Thames Valley University (United Kingdom). The author identifies constructivist approaches to learning as particularly influential in the development of distance education and quality frameworks.


Directed at provision of ICT for schools this analysis has general relevance to consideration of new technologies in all educational contexts.

191 Zvacek, S. M. 1996. Distance Education in the Teacher Education Program of Zimbabwe. Paper presented to the Annual Conference of the Association for Educational Communications and Technology, Des Moines.

This paper describes a project on distance education in Zimbabwe that identifies major project strengths and weaknesses and makes recommendations on a more active role for the University of Zimbabwe.
X Other Sources of Information
X  Other Sources of Information

(I) Selection of journals and newsletters relevant to open and distance learning and teacher education

American Educational Research Journal
http://www.aera.net/pubs/aerj/

American Journal of Distance Education
http://www.ajde.com/

British Educational Research Journal
http://www.bera.ac.uk/berj.html

British Journal of Educational Studies
http://www.blackwellpublishers.co.uk/asp/journal.asp?ref=0007-1005

British Journal of Educational Technology
http://www.blackwellpublishers.co.uk/asp/journal.asp?ref=0007-1013

Cambridge Journal of Education
http://www.tandf.co.uk/journals/archive/c-archive/cje-con.html

CIFFAD (France)
http://ciffad.francophonie.org/Nous-offrons/gravocor.html

ComLearn (Canada)
http://www.col.org/clip695.htm

Computers in Education
http://home.gci.net/~kjf/edmedia/

Datorn I Utbildningen
http://www.diu.se/nr5-99/nr5-99.asp?artikel=s10

Deanz Bulletin (New Zealand)
http://www.deanz.org.nz/news.htm (this is a bulletin or newsletter)
http://www.deanz.org.nz/jour.htm (this is a journal)

Deosnews (United States)
http://home.nettskolen.nki.no/~morten/DEOSNEWS/

Distance Education (Australia)
http://www.usq.edu.au/dec/decjourn/demain.htm
http://www.odlaa.org/pubs.htm
Distance Education Authority Newsletter (South Africa)
http://www.deasa.adm.br/internaa.htm

EADTU news (the Netherlands)
http://www.eadtu.nl/about/default.htm

EDEN Newsletter (United Kingdom)
http://www.dermis.net/org/eden/nl1_2.htm#kap3

Education, Communication, and Information
http://www.open.ac.uk/eci/

Educational Leadership
http://www.ascd.org/frameedlead.html

Educational Media International
http://susanna.catchword.com/vl=1528109/cl=26/nw=1/rpsv/catchword/routledq/09523987/contp1-1.htm

Educational Technology
http://www.fno.org/

European Journal of Teacher Education
http://www.atee.org/htm/ejte/ejtevl20.html

International Journal of Educational Telecommunications
http://www.aace.org/pubs/ijet/

Insights Education
http://www.id21.org/index.html

Journal of Computers in Mathematics and Science Teaching

Journal of Curriculum Studies
http://www.edu.uwo.ca/jcs/

Journal of Distance Education (Canada)
http://ultratext.hil.unb.ca/Texts/JDE/

Journal of Education for Teaching
http://gort.ucsd.edu/newjour/msg01741.html
http://fernando.catchword.com/vl=3121070/cl=14/nw=1/rpsv/catchword/carfax/13600540/contp1.htm
Journal of IT in Teacher Education
http://www.triangle.co.uk/jit/

Journal for Teacher Development
http://www.triangle.co.uk/tde/

Journal of Teacher Development
http://www.triangle.co.uk/jit/

Journal of Teacher Education

Media in Educational Development
http://www-jime.open.ac.uk/

ODLAA Times (Australia)
http://www.odlaa.org/pubs.htm

OLS (Open Learning Systems) News
(ISSN 0269-9729) (Quarterly with issues in June, September, December, and March.)
Subscription details from: OLS News, Subscriptions Dept., 11 Malford Grove, Gilwernm Abergavenny, Monmouthshire, NP7 0RN, U.K.

On Pirade (Solomon Islands)
PIRADE—Pacific Islands Association of Distance Education
Contact: President Ruby Vaa
vaa_r@usp.ac.fj

Online Chronicle of Distance Education (United States)

Open Learning (United Kingdom)
http://www.baol.co.uk/oltabout.htm

Open Learning Update (Australia)

Open Praxis
(ISSN 0264-0210). Two issues per year, in April/May and September/October.
First published in1993 as successor to ICDE Bulletin. Welcomes “articles, news items, letters, cartoons, and copies of publications for review from institutional and individual members of ICDE.”
http://www-icdl.open.ac.uk/lit2k/journals.ihtml
X Other Sources of Information

Qualitative Studies in Education
http://gort.ucsd.edu/newjour/i/msg02652.html

Research in Distance Education
http://www.ihets.org/consortium/ipse/fdhandbook/resrch.html

Revista Iberoamericana de Educación Superior a Distancia (Spain)
http://www.red-redial.org/revistas/revues_espagnoles/educacion/educ.htm

(II) Selection of open and distance-learning associations

African Council for Distance Education (ACDE)
website currently hosted at http://www.unisa.ac.uk/acde/

Association of Asian Open Universities (AAOU)
http://www.ouhk.edu.hk/~AAOUNet/

Association of European Correspondence Schools (AECS)
http://www.eadl.org/

Association for International Education (AIE, Russia)
http://www.civilsoc.org/nisorgs/russwest/moscow/aie.htm

Associazione Campo (Italy)
http://www.aen.at/partners/italy/campo/campo.htm

ATENA (France)

Brasilian Association for Distance Education (ABED)
http://www.abed.org.br/

Canadian Association for Distance Education (CADE)
http://www.cade-aced.ca/

Consortio Nettuno (Italy)
http://nettuno.stm.it/nettuno/index.htm

Danish Association of Open Universities (DAOU)
http://www.au.dk/daou/
X Other Sources of Information

**European Association of Distance Teaching Universities (EADTU)**
http://www.eadtu.nl/

**European Distance Education Network (EDEN, United Kingdom)**
Grats. The newsletter of EDEN. Kerry Mann, Executive Secretary, EDEN, P.O. Box 92, Milton Keynes, MK7 6DX, U.K.

**Finnish Association for Distance Education (FADE)**
http://oyt.oulu.fi/fade/eng/fadeesc.htm

**International Council for Distance Education**
http://www.icde.org/

**Istruzione a Distanza (IAD)**
First published in 1989. Quarterly. The language of the journal is Italian but coverage is international. Subscription details from: Istruzione a Distanza, Piazza San Carlo III, 42 I-80137 Napoli, Italy.

**National Council for Distance Education (Hungary)**
http://www.fsz.bme.hu/lnokt/ntt/ntt_eng.htm

**Norwegian Association for Distance Education (NADE)**
http://www.nade-nff.no/nade-nff/nadeindx.html

**Open Learning Foundation (United Kingdom)**
http://www.olf.ac.uk/

**Swedish Association for Distance Education (SADE)**
http://www.mh.se/sverd/english.html

**The Inter-America Distance Education Network**
http://www.cde.psu.edu/DE/CREAD/Cread.html

(III) Selection of relevant websites

**The Commonwealth of Learning (COL)**
The Commonwealth of Learning is an international organization that helps develop and distribute open learning and distance-education resources technologies. COL is helping developing nations improve access to quality education and training.
http://www.col.org/

**Communication Initiative**
Goals are to improve strategic thinking on development issues and advocate the importance of communication for sustainable development.
http://www.comminit.com/
Distance Education Clearinghouse (University of Wisconsin-Extension, United States)
A collection of resources for distance education that includes a section giving current information about distance education (list of conferences, articles, bibliographies, online discussion groups, etc.) as well as a section for people new to distance education.
http://www.uwex.edu/disted/

Digital Education Enhancement Project
British Department of International Development (DFID) funded research project investigating the use of state-of-the-art digital technologies in South Africa and Egypt.
http://www.open.ac.uk/deep

Education.Au Limited (Australia)
A national ICT agency for education and training.
http://www.educationau.edu.au/

Global Development Learning Network
The Global Development Learning Network uses distance-learning technologies and methods to facilitate interactive, cost-effective learning and knowledge sharing for sustainable development and poverty reduction.
http://www.gdln.org/

Imfundo
Project of the British Department of International Development (DFID) that is concerned with the development of information technologies to support education in Africa, with teachers as its primary target. Its website has a resource bank of information.
http://www.imfundo.org/

The International Council for Distance Education (ICDE)
ICDE is an international association of distance educators organized in 1938 that hold conferences around the world. Their site has lists of global distance-education associations that are affiliated with ICDE.
http://www.icde.org/

International Research Foundation for Open Learning
The International Research Foundation for Open Learning (IRFOL) is a specialist research agency that carries out research to guide policy on ODL. Its work concentrates on basic education, higher education, and the education of teachers. It works mainly, though not solely, in developing countries in association with partner institutions and researchers there.
http://www.col.org/irfol/
The Open University International Centre for Distance Learning (ICDL, United Kingdom)
Database of distance-learning courses and institutions and extensive literature database.
http://www-icdl.open.ac.uk/

The Open University Centre for Research and Development in Teacher Education
CReTE has research and development projects in a number of countries including Albania, Egypt, South Africa, and the United States.
http://www.open.ac.uk/education-and-languages/centres/crete

Remote Village Project
Example of research project on low-cost sustainable computer technology. Remote IT Village Project responds to villagers’ expressed needs for telecommunications, business opportunities, and enhanced education for children through the development of a solid-state, low-wattage computer that can be powered by a foot-crank, a high-bandwidth wireless network, and support for village small businesses.
http://www.jhai.org/jhai_remoteIT.html

Soul Beat Africa
Website for communicators across Africa to share experiences, materials, strategic thinking, and events, and to engage in discussion and debate. Addresses communicators, practitioners, media personnel, academics, researchers, and others who are interested in communication for change in Africa.
http://www.comminit.com/africa/

South African Institute for Distance Education (SAIDE)
The South African Institute for Distance Education’s purpose is to assist in the reconstruction of education and training in South Africa. It promotes open learning principles, the use of quality distance-education methods, and the appropriate use of technology. Through its information services it provides on-line access to newsletters and a wealth of information in the Reading Room.
http://www.saide.org.za/

TechKnowLogia
Free bimonthly newsletter on the use of information and communication technologies in education, produced by an American agency, Knowledge Enterprise, Inc.
Other Sources of Information

UNESCO Education
It contains a variety of material on teacher education and the use of distance education.

UNICEF
It contains articles, opinions, and research relevant to the needs of teachers.

University of Wisconsin – Extension Distance Education Clearinghouse
Comprehensive review of all aspects of distance education, including journals, relevant conferences, and contemporary issues.
http://www.uwex/disted/.

WorldBankGlobalDistanceEducationNet
The Global Distance EducationNet (Global DistEdNet) is a knowledge guide to distance education designed to help clients of the World Bank and others interested in using distance education for human development. The Network consists of a core site located at the World Bank and regional sites in all parts of the world.
http://www1.worldbank.org/disted/