

Master of Education (M.Ed.)

Title of the Course: S.Me.2(q): Multimedia Education: Research and Innovations

(Semester: I, II, III & IV)

Credits: 4

MM: 100 (External: 70 Internal: 30)

Contact Weeks: 15

Introduction of the Course

The course focuses on the research perspectives of multimedia, debates and trends in research in multimedia education. The course also focuses on challenges of contemporary education and innovative practices to address the challenges using multimedia. The course also focuses on the development of competencies and skills to develop multimedia for Indian classroom.

Learning Outcomes:

After completion of the course, students will be able to-

1. Understand the research perspectives on Multimedia.
2. Understand the importance of considerations of factors affecting Multimedia.
3. Develop competencies regarding innovative use of multimedia
4. Critical and reflective understanding on the research on educational multimedia
5. Develop skills in developing instructional material

Number of Units: 3

Weeks 15 = 60 hours

Unit 1: Multimedia Education: Research Perspectives (5 weeks = 20 hours)

- Researches on Multimedia at national and Global levels
- Qualitative and Quantitative research in Multimedia Education
- Emerging researches in Multimedia Education
- Assessment of Multimedia-rich Programme in Education and its implications

Unit 2: Considerations for Multimedia Development (5 weeks = 20 hours)


- Delivery mechanism of Multimedia
- Mode and Modalities of Multimedia Integration
- Components of Selection and development of multimedia
- Socio-cultural consideration in multimedia development and integration
- Multimedia and Knowledge Economy

Unit 3: Innovations in Multimedia Education (5 weeks = 20 hours)

- Innovating Education and Educating for Innovation
- Multimedia and Competencies and ICT skills required in 21st Century
- Research on the Innovation of Multimedia
- Application of multimedia to innovative quality education for sustainability
- Development of Multimedia based Programme in Education

Practicum/ Suggested Projects / Assignments (Any Two)

1. Review/Reflection on Research in Multimedia Education
2. Design multimedia for a specific subject


Head/Dean
विभागाध्यक्ष एवं संकाय अध्यक्ष
शिक्षा विभाग/Deptt. of Education
दिल्ली विश्वविद्यालय, दिल्ली-110007
University of Delhi, Delhi-110007

3. Assessment of the Multimedia based practices

Note: On the basis of the above, the teacher may design his/her own relevant projects/ assignments.

Essential/ Recommended Readings

- Asthana, A. (2012). *Multimedia in education - introduction, the elements of educational requirements, classroom architecture and resources, concerns*. Retrieved from <http://encyclopedia.jrank.org/articles/pages/6821/Multimedia-in-Education.html>
- Beder, S. (2001). *Environmental Context: A CD ROM based multimedia educational pack*. Retrieved from <http://herinst.org/sbeder/home.html#resources>
- Bhushan, B., & Sethi, V. (2012). Use of multimedia in higher education: Learners' and teachers' perspective. *International Journal of Advanced Research in Computer Science and Software Engineering*, 2 (9), 262-264.
- Butcher-Powell, L. M. (2005). Teaching, Learning and Multimedia. In Mishra, S., & Sharma, R. C. (2005). *Interactive Multimedia in Education and Training*. London: Idea Group Publishing.
- Chaudhari, P. and Khirwadkar, A. (2012). E-learning Approach to Train Novice Teachers. Germany: Lap Lambert Academic Publishing.
- Chaudhari, P. and Khirwadkar, A. (2024, Forthcoming). Effectiveness of Multimedia Package on Student-teachers' Achievement in Information and Communication Technology (ICT) in Education Course. *International Journal of Instruction*.
- Colon, B., Taylor, K. A., & Willis, J. (2000). Constructivist instructional design: Creating a multimedia package for teaching critical qualitative research. *The Qualitative Report*, 5(1 & 2). Retrieved from <http://www.nova.edu/ssss/QR/QR5-1/colon.html>
- Crary, M. A. (2010). *Multimedia-based animated demonstrations as an instructional strategy for teaching computer software procedure* (Unpublished doctoral thesis). Arizona State University, Arizona.
- Fahy, P. L. (2005). Planning for Multimedia Learning, In Mishra, S., & Sharma, R. C. (2005). *Interactive Multimedia in Education and Training*. London: Idea Group Publishing.
- Fenrich, P. (2005). *Creating instructional multimedia solutions: Practical guidelines for the real world*. California: Informing Science Press.
- Ferry, B., & Brown, C. (1995). Technology in teacher education: Using multimedia to enhance the design and make processes. *Australian Journal of Teacher Education*, 20(2).
- Gagne, R. M. (1985). *The conditions of learning and theory of instruction* (4th ed.). New York: Holt, Rinehart, and Winston.
- Garrand, T. (2006). *Writing for Multimedia and the Web: A Practical Guide to Content Development for Interactive Media, Third addition*. Focal Press, Elsevier: USA.
- Gayeski, D. M. (1993). *Multimedia for learning: Development, application, evaluation*. Englewood, N.J.: Educational Technology Publications.

- Gjedde, L. (2005). Designing for Learning in Narrative Multimedia Environments. In Mishra, S., & Sharma, R. C. (2005). *Interactive Multimedia in Education and Training*. London: Idea Group Publishing.
- Hannafin, M. J. (1988). Interaction strategies and emerging instructional technologies: Psychological perspectives. *Canadian Journal of Education Communication*, 18(3), 167-179.
- Hannafin, M.J., & Hooper, S. (1989). An integrated framework for CBI screen design and layout. *Computers in Human Behavior*, 5(3), 155-165.
- Hong, M., Wu, M., & Hsieh, C. (2003). The application of multimedia in e-learning: Taiwan's experience. In Takashi Tajima (Ed.), *Multimedia and e-Learning: A New Direction for Productivity Promotion and Enhancement* (pp. 42-51). China: Asian Productivity Organization.
- Lindstrom, R. (1994). *The business week guide to multimedia presentations: create dynamic presentations that inspire*. New York: McGraw-Hill.
- Margie, J., & Liu, M., (1996). Introducing interactive multimedia to young children: A case study of how two-years-olds interact with the technology. *Journal of Computing in Childhood Education*, 8(4), 313-343.
- Mayer, R. E. (2001). *Multimedia Learning*. New York: Cambridge University Press.
- McKay, E. (2005). Cognitive Skill Capabilities in Web-Based Educational Systems. In Mishra, S., & Sharma, R. C. (Ed). *Interactive Multimedia in Education and Training*. London: Idea Group Publishing.
- Merrill, M. D. (1983). Component display theory. In C. M. Reigeluth (Ed.), *Instructional design theories and models* (pp. 279-327). Hillsdale, NJ: Lawrence Erlbaum.
- Merrill, P. F., & Bunderson, C. V. (1979). *Guidelines for employing graphics in a videodisc training system. ISD for videodisc training systems*. Army Research Institute for the Behavioural and Social Sciences, Alexandria, VA. Retrieved from the ERIC database. (ED 196 413)
- Milheim, C. L., & Lavix, C. (1992). Screen design for computer based training and interactive video: practical suggestions and overall guidelines. *Performance & Instruction*, 3(5), 13-21.
- Mishra, S., & Sharma, R. C. (2005). *Interactive Multimedia in Education and Training*. London: Idea Group Publishing.
- Mostefaoui S. K., Ferreira, G., Williams, J., & Herman, C. (2012). Using creative multimedia in teaching and learning ICTs: A case study. *European Journal of Open, Distance and E-learning*, pp. 1-11. Retrieved <http://www.eurodl.org/materials/contrib/2012/koadri>
- Neo, M., & Neo, T. K. (2001). Innovative teaching: Using multimedia in a problem-based learning environment. *Educational Technology & Society*, 4 (4).
- Noordin, S., Ahmad, W. F. W., & Hooi, Y. K. (2011). Study of effectiveness and usability of multimedia courseware integrated with 3-dimensional model as a teaching aid. *International Journal of Computer Applications*, 16(4), 20-27.
- Norhayati, A. M., & Siew, P. H. (2004). Malaysian perspective: Designing interactive multimedia learning environment for moral values education. *Educational Technology & Society*, 7 (4), 143-152.

Head/Dean

विभागाध्यक्ष एवं संकाय अध्यक्ष
शिक्षा विभाग/Deptt. of Education
दिल्ली विश्वविद्यालय, दिल्ली-110007
University of Delhi, Delhi-110007

- Nusir, S., Alsmadi, I., Al-Kabi, M., & Sharadgah, F. (2012). Studying the impact of using multimedia interactive programs at children ability to learn basic math skills. *Acta Didactica Napocensia*, 5(2), 17-32.
- Orr, K. L., Golas, K. C., & Yao, K. (1994). Storyboard development for interactive multimedia training. *Journal of Interactive Instruction Development*, Winter, 18-31.
- Oshinaike, A. B., & Adekunmisi, S. R. (2012). *Use of multimedia for teaching in Nigerian university system: A case study of University of Ibadan*. Retrieved from <http://www.webpages.uidaho.edu/~mbolin/oshinaike-adekunmisi.htm>
- Padhiyar, A. (2010). *Multimedia introduction and types*. Retrieved from <http://bcahub.com/ty-bca/multimedia/multimedia-introduction-and-types/>
- Pant, A. (1998). *Methodology of multimedia production*. Paper presented at the International Conference on Multimedia for Humanities, The Indira Gandhi National Centre for the Arts (IGNCA), New Delhi. Retrieved from <http://ignca.nic.in/clcnf180.htm>
- Park, I., & Hannafin, M. (1993). Empirically based guidelines for the design of interactive multimedia. *ETR&D* 4(3), 63-85.
- Pimpale, G. P., & Vadnera, R. V. (2012). Investigating the effectiveness of digital interactive multimedia package in astronomy to promote scientific temper- A case study of the tertiary level students in India. *Physics Education*, 28(2).
- Piyayodilokchai, H., Panjaburee, P., Laosinchai, P., Ketpichainarong, W., & Ruenwongsa, P. (2013). A 5E learning cycle approach-based, multimedia-supplemented instructional unit for structured query language. *Educational Technology & Society*, 16 (4), 146-159.
- Sankey, M., & Nooriafshar, M. (2005). *Multiple representations in multimedia and e-learning materials: an issue of literacy*. In Son, Jeong-Bae and O'Neill, Shirley (eds.). *Enhancing Learning and Teaching: Pedagogy, Technology and Language*. Flaxton, Australia: Post Pressed.
- Stemler, L. K. (1997). Educational characteristics of multimedia: A literature review. *Journal of Educational Multimedia and Hypermedia*, 6(3/4), 339-359.
- Sun, P., & Cheng, H. K. (2007). The design of instructional multimedia in e-learning: a media richness theory-based approach. *Computers & Education*, 49(3), 662-676.
- Tannenbaum, R. S. (2000). *Theoretical foundations of multimedia*. Retrieved from <http://ubiquity.acm.org/article.cfm?id=347643>
- Taylor, C. D. (1992). Choosing a display format for instructional multimedia: two screens vs. one. *Multimedia Display Formats AECT92*, 762-784.

Teaching Learning Process

The course will be taught through interactive methods such as classroom discussion, critical media analysis, collaborative learning tasks which enhance reading comprehension of core writings in the area and innovative projects. Reflective expression and learning will be encouraged.

Assessment Method

The assessment will be formative in nature and will factor in student participation. Individual and group tasks and assignments will be given. Summative evaluation will be done through end- semester examination.

29383

Head/Dean
 विभागाध्यक्ष एवं संकाय अध्यक्ष
 शिक्षा विभाग/Deptt. of Education
 दिल्ली विश्वविद्यालय, दिल्ली-110007
 University of Delhi, Delhi-110007

Key words: Multimedia, Innovation, Research Perspectives



Head/Dean
विभागाध्यक्ष एवं संकाय अध्यक्ष
शिक्षा विभाग/Deptt. of Education
दिल्ली विश्वविद्यालय, दिल्ली-110007
University of Delhi, Delhi-110007