Master of Education (M. Ed.)

Title of the Course: S.Exp. 2(L) Experimental Research in Education (Semester: I, II, III & IV)

Credits: 4

MM: 100 (External: 70 Internal: 30)

Contact Week 15

Introduction of the Course

An expert in the field of education cannot be a real expert without having knowledge of experimental education. For having an in-depth knowledge and understanding of the field of experimental education, one needs to develop critical understanding of the concept and designs of experimental research. Sampling designs along with statistical techniques, parametric as well as non-parametric, are important aspects in this regard which one must learn focusing on their advantages and applications.

Learning Outcomes

After completion of the course student will be able to:

1. develop critical understanding about the concept of experimental education in a broad and contemporary framework
2. differentiate between and control the factors affecting experimental validity
3. analyze and comprehend various experimental designs with reference to their applications
4. criticize various sampling designs

Number of Units (4) **Weeks 15 = 60 hours**

Unit 1: Experimental Education (4 weeks = 16 hours)

- Concept, significance, and scope Experimental Method: Nature, steps in Experimental methods

Unit 2: Experimental Validity and Randomization (4 weeks = 16 hours)

- Experimental Internal Validity, Experimental External Validity, Factors affecting experimental validity. Randomization Process. Controlling the Variables.

Unit 3: Experimental Designs (4 weeks = 16 hours)

- Pre-experimental, Quasi-experimental, True Experimental, Factorial, Latin Square designs and current developments in Experimental designs. Critique about Experimental Research in Education

Unit 4: Sampling Designs (3 weeks = 12 hours)

- Sampling techniques. Traditional designs and current developments in Sampling designs.

Practicum/ Suggested Projects / Assignments (Any Two)

1. Locating recently published Experimental studies using different higher-level designs
2. Criticizing recently published Experimental studies using different higher-level designs
3. Designing and implementing an experimental study using higher level designs
4. Analyzing the sampling designs used in various experimental researches

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

Essential/ Recommended Readings

- Best, J. W. & Kahn J. V. (2005). Research in education. New Delhi: Prentice Hall of India Pvt. Ltd.
- Broota, K.D. (1992). Experimental Design in Behavioural Research. New Delhi: Wiley Eastern Limited.
- Campbell, D.T. & Stanley, J.C. (XXXX). Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally College Publishing Company.
- Cohen, L., Manion, L. & Morrison, K. (2007). Research methods in education (6th ed.). London: Routledge Falmer, Taylor and Francis Group.
- Cooper, D. R., Schindler, P. S. & Sharma, J. K. (2013). Business research methods. McGraw Hill Education Pvt Ltd., New Delhi.
- Creswell, J. W. (2008). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston: Pearson.
- Cronbach, L. J. (1990). Essentials of psychological testing. New York: Harper and Row.
- Garrett, H. E. (2005). Statistics in psychology and education. New Delhi: Paragon International Publishers.
- Guilford, J. P. & Fruchter, B. (1978). Fundamental statistics in psychology and education. New York: McGraw Hill.
- Kerlinger, F. N. (1978). Foundations of behavioural research. Delhi: Surjeet Publications.
- Koul, L. (1993). Methodology of educational research. New Delhi: Vikas Publishing House Pvt. Ltd.
- McGuigan, F. G. (1990). Experimental Psychology: Methods of Research. PHI Private Ltd, New Delhi, pp. 270-282.
- Monge, P. & Williams, F. (2001). Reasoning with statistics: How to read quantitative research (5th ed.). Orlando, Florida, USA: Harcourt College Publishers.
- Morrow, J. R., Jackson, A. W., Disch, J. G. & Mood, D. P. (1995). Measurement and evaluation in human performance. Illinois: Human Kinetics.
- Muijs, D. (2004). Doing quantitative research in education. London: SAGE Publications.
- Opie, C. (2005). Doing educational research: A guide to first time researchers. New Delhi: Vistaar Publications.
- Robson, C. (1994). Experiment, design and statistics in psychology (3rd ed.). England: Penguin Books.
- Sani, F. & Todman, J. (2006). Experimental design and statistics for psychology: A first course. MA, USA: Blackwell Publishing.
- Sharma, R. A. (2004). Essentials of scientific behavioural research. Meerut: Surya Publication.
- Singh, A. K. (1992). Research methods in psychology, sociology and education. Delhi: Motilal Banarasidas.
- Singh, A. K. (2001). Test, measurements and research methods in behavioural sciences. Delhi: Bharati Bhawan.
- Singh, K. (2007). Quantitative social research methods. Los Angeles: SAGE Publications.

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- Wiersma, W. (1991). Research methods in education. Boston: Allyn and Bacon.

Teaching Learning Resources (Digital and others):

UNESCO Website, NCERT Website, MoE Website, UGC Website, NCTE Website and various other relevant websites

Teaching Learning Process

The course will be taught through interactive pedagogic methods such as classroom discussion, debates, film discussions, 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 the end-semester examination.

Key words: Experimental Education, Experimental Validity and Randomization, Experimental Designs, Sampling Designs

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