TAMIL NADU OPEN UNIVERSITY
School of Education

CERTIFICATE PROGRAMME ON INSTRUCTIONAL DESIGN

This certificate programme aims to prepare teachers and other Educational Professionals equipped with the knowledge and skills for organising Teaching Learning process and training with the help of appropriate Instructional Design &Technologies, Techniques, Tactics & Strategies, Media & Materials Resources and Educational Assessment in Teaching Learning Process.

Programme Objectives

While studying the Certificate Programme on Instructional Design, the student shall be able to:

- develop an understanding of the nature of Instructional Design & Technologies Techniques, Tactics, Strategies, Resources, Media & Materials and Educational assessment for Teaching Learning Process;
- imbibe an awareness about the various educational technologies and their pedagogic uniqueness;
- Extend the skills needed for making optimum use of the technologies enabling collaborative practices and sharing of educational resources;
- promote selection of Teaching Technology and integrate it successfully in the instructional Delivery system; and
- Enhance Digital Literacy for teacher empowerment.

Programme Outcomes

After completion of the Certificate Programme on Instructional Design, the student will be able to:

- practice appropriate techno-pedagogical competencies in teaching learning process;
- handle the curriculum with ease using technology enabled teaching;
- equip themselves to various instructional technology for teaching learning process;
- educate Students with diverse needs and abilities effectively by using adaptive techniques Tactics, Strategic Media and technological resources;
- Inculcate the usage of digital mode to enhance teaching Learning Process.

Eligibility	:	+2 and above
Medium of Instruction	:	English.
Duration	:	Minimum 6 months and Maximum 1 year
Fee Structure	:	Rs. 1500 /-

Programme Details

COURSE CODE	COURSE TITLE	CREDITS
CID- 01	Instructional Technologies and Techniques	3
CID- 02	Instructional Tactics, Strategies and Educational Assessment	3
CID - 03	Instructional Resources	3
	Total Credits	**9**

Examination System: Theory Examinations will be conducted by the University in the Identified Centres. The assignment for each course should be submitted to the respective Learning Support Centres, which will be evaluated by the evaluators appointed by the University.

Assignment for each Course

Assignment 1:

Answer any one of the questions not exceeding 1000 words	Max – 15 Marks
Question 1	
Question 2	
Question 3	

Assignment 2:

Answer any one of the questions not exceeding 1000 words	Max – 15 Marks
Question 1	
Question 2	
Question 3	

Theory Examination: Students shall normally be allowed to appear for theory examination by completing Assignment. The Term-End Examination shall carry Sections: A, B and C.

Section-A	Very Short-Answer Questions [Each 3- Marks] Three out of Five Questions	3 x 3 = 9 Marks
Section-B	Short-Answer Questions [Each 7 - Marks] Three out of Five Questions	3 x 7 = 21 Marks
Section-C	Long-Answer Questions [Each 10- Marks] Four out of Seven Questions	4 x 7 = 40 Marks
Total		**70 Marks**

Awarding Continuous Internal Assessment (Maximum 30 marks):

Submission and Evaluation of Assignments	**15 Marks (Compulsory)**
Attending in Academic Counselling Classes at LSCs/SCs (50% of Attendance may be considered for maximum marks	**15 Marks**
Total	**30 Marks**

Scheme of Evaluation

Continuous Internal Assessment	**30 Marks**
Theory Examinations	**70 Marks**
Total	**100 Marks**

Passing Minimum: The passing minimum is 25 marks out off 70 marks in the external (Theory) Examination and minimum 10 marks out off 30 marks in the Continuous Internal Assessment (CIA), overall 40 percent for successful completion of each course.

Classification of Successful Candidate: Candidates who pass all the Courses and who secure 60 percent and above in the aggregate of marks will be placed in the first class. Those securing 50 percent and above but below 60 percent in the aggregate will be placed in the second class. Those securing 40 percent and above but below 50 percent in the aggregate will be placed in the third class.

*****

Tamil Nadu Open University
School of Education
Chennai – 15

COURSE TITLE	: Instructional Technology and Techniques
COURSE CODE	: CID -01
COURSE CREDIT	: 03

COURSE OBJECTIVES

While studying Instructional Technology and Techniques, the student shall be able to:

- develop the scope of Instructional Technology and its applications in teaching learning Process ;
- imbibe the means of Instructional Technologies and Techniques, Using Self Instructional Materials & Approach integration in teaching learning Process;
- categorise the Technological Tools and Techniques for Teaching Learning Process
- Construct the Model Teaching plan for teaching learning Process.

COURSE OUTCOMES

After completion of Instructional Technology and Techniques,the student will be able to:

- enrich his/her knowledge on role of Teaching Technology and its applications in Teaching learning process ;
- practice the ways and means of Teaching Technology and Techniques in Teaching learning process;
- comprehend the use of Technology approach and Techniques in Teaching learning process;
- educate the Student with learning applications of Internet and web resources; and
- Promote the process of using the applications Educational Technology & Techniques software for creating Learning motivation and awareness among learning.

BLOCK 1   INSTRUCTIONAL DESIGN AND TECHNOLOGY

UNIT–1 – Introduction to Instructional Designand Technology

InstructionalDesignandTechnology: Meaning of Instruction- Instruction and Learning – Instruction and Teaching – Instructional Design –Stages of Design of Instructional System – Types – Principles of Organising Learning Experience- Analytical Approach to Teaching Learning from Acts of Teaching – Levels of

Teaching – Phases of Teaching - Tolmans' Pedagogical Approach – Advantages of Instructional Design and Technology

UNIT–2 – Educational Technology and its applications

EducationalTechnology:Meaning Definitions- Stages and Phases of Educational Technology – Scope of Educational Technology –Development of Instructional Technology –Trends in Educational Technology - Classification & Components of Educational Technology-Hardware – Software – Role of Educational Technology-Relationship between Hardware- software - Teaching Aids - Evaluation of Educational Technology -Uses of Educational Technology.

UNIT–3 – System Approach to Instructional Process

System: Meaning - Definitions –Characteristics – Parameters of Systems – Instructional Systems-**Systemapproach**:Meaning - Scope of System Approach – Advantages of Instruction – Steps of Systems Approach - Advantages of Instruction andSystem Approach in Education - Constraints in System Approach - Teacher Controlled Instruction- Learners Controlled Instruction- Group controlled Instruction.

BLOCK 2   INSTRUCTIONAL TECHNIQUES

UNIT– 4 – Introduction to Instructional Techniques

Instructional Techniques: Meaning – definitions – Needs for Instructional Techniques in Teaching Learning- Students Centred Teaching-Teacher Centred Teaching -– The Common Techniques used in the Teaching Learning- Cooperative Learning Techniques – Cross Word Puzzles – Discussion – Questioning - Role playing – Small group –Tutorial - Brainstorming - Uses of Techniques in Classroom.

UNIT – 5 –Psycho Socio- Drama or Play Techniques

Psycho Socio Drama or Play : Meaning – Definitions- Methods –Types Psychological Patterns : Applications- Related Concepts - Dramatization and Play Way - Socio Metric Pattern - Difference between Psychodrama and Socio drama - Use of Psycho-Socio Drama Play Techniques

UNIT – 6 –Socialised Recitation Interaction Techniques

Socialised Recitation Interaction: Meaning - Definitions - Objectives – Purpose of using – Types of Socialised Interaction Techniques- Informal Group

Plan -The Formal Group Plan- Seminar – Symposium – Panel Discussion – Work shop – Committee   Meeting – Conference Buzz Group – Synaptic & Syndicate - Merits of Socialised   Recitation techniques .

BLOCK 3   **USING SELF LEARNING MATERIALS**

UNIT– 7 – Introduction to Self Learning Materials

Self Learning Materials: Meaning – Definitions – Objectives – Principles of Self Learning Materials - Designing Self Learning Materials - Preparation of Self Learning Materials Unit – Programmed Learning material – IndividualisedSelf Instruction – Personalised System of Instruction – Bloom's ,Mastery Learning – Keller's Plan – Use of Self LearningMaterials

UNIT – 8 –Using Multimedia Packages

Media: Meaning – Definitions- **Multimedia:** Meaning–Definitions– Concepts – Components – Essentials Features of Multimedia Packages –   Learning   Activity Packages – Advantages of LAPs – Use of Multimedia Packages in Teaching Learning.

UNIT – 9 –Using Modular Packages

Modules: Meaning & Definitions – Instructional Modules – Essentials Features of a Module – Components of Module –Developing a Module- Useof Modular packages.

BLOCK 4   **PEDAGOGICAL APPROCAHES**

UNIT – 10 – Inductive and Deductive Approaches

Inductive Thinking Approach: Meaning – Importance Concepts – Merits - Role of Teachers – **Deductive Approach**: Meaning & Definitions - Role of Teacher – Combination of Deductive and Inductive Approach – Advantages of Approaches

UNIT – 11 - Project Approach- Learning by Doing

Project Approach: Meaning – Definitions – Importance – Need – uses Principles – Role of Teachers and Student in Project approach – Types of Projects – Organisation   of Projects – Characteristics of Good Project - Merits and Demerits.

UNIT – 12 – Situational and Simulation Approaches

Situational Approach: Meaning - Definitions – Steps involved in Situational Approach – Merits of Situational Approach.

Simulation Approach: Meaning & Definitions- Applications of Simulation in the Training Technology- Steps in Simulated Approach – Reason for the Use of Simulation Techniques- Use of Simulation – Importance of Simulations- Limitations

BLOCK 5   ALTERNATIVE TECHNIQUES

UNIT – 13 – Remedial and Mediated Teaching Techniques

Remedial Teaching: Meaning – Concepts – Advantages of Remedial Teaching.

Mediated Teaching: Meaning – Definitions- Concepts – Importance- Advantages of Mediated Teaching

UNIT – 14 – Team Teaching Techniques

Team Teaching: Meaning - Definition – Characteristics - Nature –Objectives – Types – Guiding Principles of Team Teaching –Steps involved in Establishing a Team - Advantages of Team Teaching –Limitations of Team Teaching.

SUGGESSTED READINGS

- **Abaya Mawof(1991)** Instructional Design and the systems approach adoption by   faculty in college of education, Ph.D. The University of Toledo in dissertations   abstracts International Vol.52. No.7.January 1992 PP2509-A

- **Billwin (1987)** International design and self designing systems.   Journal of educational Technology October, Vol XXVII, No.10 PP- 31-34

- **Brown, H.D (2000) ,** Teaching by Principles: An Interactive Approach to Language Pedagogy, New York: Longman

- **Chauhan S.S (1981)** Innovations in Teaching – Learning Process vikas Publishing House PVT LTD- PP- 47.56

- **Liao Tai- Chu (1989)** Educational and Instructional Technology in China Past and   Present Educational Technology TI 26, 3, P 262

- **Luren, C., Neaesu, I, Safta, C.G., &Suditu, M. (2011),** the study of the Relationship between the Teaching methods and the Learning Styles. The Impact upon Students academic conduct.

- **Pillay G.S (1991)** Instructional Designing, Nirmal Publications Madurai-14.

- **OrlichD.C.,Harder R.J Callahan R.CTrevisanM.S.,Brown A,.H., (2010)** Teaching Strategies: guide of Effective Instruction, Ninth Edition Wadsworth, cengage   learning.

- **RegeluthC.C.(2013)** Instructional Design Theories and models: A new Paradigm of Instructional Theory, London; Routledge.

- **Reiser,R.A.,&Dempsey,J.V. (2011)** Trends and issues in instructional design and technology, Pearson.

*****

COURSE TITLE	: **Instructional Tactics, Strategies and Educational Assessment**
COURSE CODE	: CID -02
COURSE CREDIT	: 03

COURSE OBJECTIVES

While studying Instructional Tactics, Strategies and Educational Assessment , the student shall be able to:

- develop the scope of Instructional Tactics, Strategies and Educational Assessment in teaching learning Process ;
- imbibe the means of Instructional Tactics ,Strategies and Educational Assessment and integration in Teaching Learning Process;
- categorise the Instructional Tactics, Strategies and Educational Assessment for Teaching Learning Process;
- Construct and Model plan for Teaching Learning Process.

COURSE OUTCOMES

After completion of Instructional Tactics, Strategies and Educational Assessment, the student will be able to:

- enrich his/her knowledge on role of Instructional Tactics, Strategies and Educational Assessment and its applications & uses in Teaching learning process;
- practice the ways and means of Instructional Tactics, Strategies and Educational Assessment in Teaching learning process;
- comprehend the use of Technological approach and Techniques in Teaching learning process;
- Promote the process of using the Teaching Technology Tactics, strategies and Educational Assessment for creating Learning Motivation and awareness among learners

BLOCK 1   INSTRUCTIONAL TACTICS

UNIT – 1 – Introduction to Instructional Tactics

InstructionalTactics: Meaning – Definitions – Concepts- Importance - Significance – Needs- Purposes –Relationship between Instructional Tactics Strategies, Methods and Techniques– Advantages of Using Tactics.

UNIT – 2 – Using Single Oral Tactics-I

SingleOralTactics: Meaning – Significance- Explanation – Telling Stories- Narration.

UNIT – 3 – Using Single Oral Tactics-II

Questioning – Appreciation – Drill and Practice – Parallelising -Quotation- Interpretation Hyperbole - Proverbial Language – Simile – Humour – Metaphor – Advantages of Using Single Oral Tactics

BLOCK 2   INSTRUCTIONAL STRATEGIES

UNIT – 4 – Introduction to Instructional Strategy

InstructionalStrategy: Meaning- Definition - Importance - Significance – Stages of Designing – Characteristics -The Principles of Effective Teaching Strategy –Strategies for Instruction – Use of Multi Teaching Aids Assistance – Types of Strategy – Autocratic Style Strategy – Permissive Style Strategy

UNIT – 5 – Autocratic Style Strategy

Autocratic Style: Meaning – Types of Autocratic Style Strategy – Lecture Strategy – Demonstration Strategy – Programmed Instruction.

UNIT – 6 – Permissive Style Strategy

Permissive Style: Meaning - Definitions – Significance- Types of Permissive Style Strategy – Question Answer strategy (Socratic) – Heuristics – Project – Group discussion – Role playing – Assignment –Discovery – Independent study – CAI – Brainstorming – Leader Less Group – T Group – Sensitivity Training – Use of Instructional Strategy.

BLOCK 3   SKILLS APPROACH TO TEACHING

UNIT – 7 – Introduction to Skills Approaches to Teaching

Skills Approach to Teaching: Meaning – Definition – Classifications – Training in Teaching Skills – Components of Teaching Skills – Skill of introducing a Lesson – Skill of Reinforcement – Skill of Stimulus variation

UNIT – 8 – Practice of Skills Approach to Teaching –I

Practice of skills: Skill of Explaining – Skill of Illustrating with Examples

UNIT – 9 – Practice of Skills Approach to Teaching -II

Practice of Skills: Skill of using Black Board – Skill of Probing Questioning

BLOCK 4   EDUCATIONAL ASSESSMENTS

UNIT – 10 – Introduction to Educational Assessment

Educational A**ssessment**: Meaning – Definition – Concepts – Objectives –Need – Importance – Purpose of Assessment for Instruction–Assessment for various Purposes- Assessment for Instructional Purpose – Assessment of Certification - Criterion Reference - Norms Reference - Advantages of Assessment

UNIT – 11 – Tools and Techniques for Assessment

Tools and Techniques: Meaning – Types of Testing Techniques – Achievement Test – Teacher made and Standard Test – Socio Metric Test - Projective Test – Students Diary and Case History – Intelligence – Personality Test -Test of Attitude and Behaviour – **Types of Tools** :Rating Scale – Questionnaire – Check List – Interview Schedule – Anecdotal Records

UNIT – 12 –   Assessing Students Performance

Quantitative Assessment – Qualitative Assessment – Qualitative interpretation of student's performance

BLOCK 5   RECENT TRENDS IN ASSESSMENT

UNIT – 13 – Aspects of Assessments

 Assessment or Evaluation as a Continuous and comprehensive Process - Formative- Summative- Cognitive and Non Cognitive Outcomes

UNIT – 14 –Innovations in Assessment Procedure

Innovations in Assessments: Meaning – Testing Situations – Diagnostic Testing – Stages of Diagnosis – Remedial Measure and Enrichment Techniques for Students – Merits of Diagnostic Testing

SUGGESSTED READINGS

- **Abaya Mawof(1991)** Instructional Design and the systems approach adoption by   faculty in college of education, Ph.D. The University of Toledo in dissertations   abstracts International Vol.52. No.7.January 1992 PP2509-A
- **Billwin (1987)** International design and self designing systems. Journal of educational Technology October, Vol XXVII, No.10 PP- 31-34

- **Brown, H.D (2000) ,** Teaching by Principles: An Interactive Approach to Language Pedagogy, New York: Longman

- **Chauhan S.S (1981)** Innovations in Teaching – Learning Process vikas Publishing House PVT LTD- PP- 47.56

- **Liao Tai- Chu (1989)** Educational and Instructional Technology in China Past and   Present Educational Technology TI 26, 3, P 262

- **Luren, C., Neaesu, I, Safta, C.G., &Suditu, M. (2011),** Thestudy of the Relationship between the Teaching methods and the Learning Styles. The Impact upon Students academic conduct.

- **Pillay G.S (1991)** Instructional Designing, Nirmal Publications Madurai-14.

- **OrlichD.C.,Harder R.J Callahan R.CTrevisanM.S.,Brown A,.H., (2010)** Teaching Strategies: guide of Effective Instruction, Ninth Edition Wadsworth, cengage learning.

- **RegeluthC.C.(2013)**   Instructional Design Theories and models: A new Paradigm of Instructional Theory, London; Routledge.

- **Reiser,R.A.,&Dempsey,J.V. (2011)** Trends and issues in instructional design and technology, Pearson.

*****

Tamil Nadu Open University
School of Education
Chennai – 15

COURSE TITLE	: <mark>Instructional Resources</mark>
COURSE CODE	: CID-03
COURSE CREDIT	: 03

COURSE OBJECTIVES

While studying Instructional Resources, the student shall be able to:

- develop the scope of Instructional Resources and its applications & Uses in Teaching learning Process ;
- imbibe the means of Instructional Resources , Media & Materials Teaching Technology integration in Teaching learning Process;
- categorise the Instructional Resources for Teaching Learning Process;
- Construct and Model plan for Teaching learning Process.

COURSE OUTCOMES

After completion of Instructional Resources, the student will be able to:

- enrich his/her knowledge on role of Instructional Resources & Teaching Technology and its applications and uses in Teaching learning process;
- practice the ways and means of Teaching Technology and Resources in Teaching learning process;
- comprehend the use of Instructional Resources and approaches and uses in Teaching learning process;
- educate the Student with learning applications of Internet and web resources; and
- Promote the process of using Teaching technology and Resources for creating Learning Motivation and awareness among learners

BLOCK 1   INSTRUCTIONAL RESOURCES

UNIT – 1 – Introduction to Instructional Resources

Instructional Resources: Meaning – Definitions - Objectives of Using Resources – Classroom Instruction and Communication – Instructional Medium and Instructional Aids – Selection and Use of Instructional Resources- Cone of Experience – Classification of Resources or Teaching Aids - Print Materials –

Projected aids –Non projected aids – Hardware and Software in Teaching Aids – Advantages of using Teaching Aids.

UNIT – 2 – Use of Print Materials

Print Materials: Meaning – Collateral Reading Books – Aims of Collateral Reading – Guideline for making Collateral Reading more Effective – Teachers Guide – Various Purposes of Reading of Books, Novels, Magazines and News Papers –Advantages of outside Reading – Assignment – Workbooks.

BLOCK 2   INSTRUCTIONAL MEDIA, MATERIALS AND AIDS - I

UNIT – 3 – Use of Hardware and Projected Aids

Hardware: Meaning **–** use of Hardware in Teaching aids – **Projected Aids:** **F**ilms & Filmstrips – Slides & Projector – Opaque& Opaque Projector- OHP – Episcope, Epidiascope – Still Projector – Microforms & Projector – Profile Projector – Use of Projected Aids

UNIT – 4 – Use of Non Projected: Graphic Aids

Non Projected: Meaning **– Graphic Aids:** Meaning **–** Types of Graphic Aids **–** Photograph – Pictures – Flash Cards – Posters – Charts – Diagrams – Maps – Graphs – Cartoons – Comics – Advantages of using Graphic Aids.

UNIT – 5 – Use of Non Projected: Display Boards

Display Boards: Meaning – Importance – Type of Display Boards – Chalk & Block Board – Flannel Board – Bulletin Board – Magnetic Boards – Peg Board - Multipurpose Boards – Interactive White Board – Smart Board- Other Boards

BLOCK 3   INSTRUCTIONAL MEDIA, MATERIALS AND AIDS - II

UNIT – 6 – Use of Non Projected: 3D Aids

Three Dimensional Aids: Meaning – Classifications **Specimens** – Models – Objects – Diagrams – Globes – Mobilise - Puppets – Mock-Ups - Dramatization – Advantages of Using 3D Aids.

UNIT – 7 – Use of Non projected: Audio Visual Aids

Audio Visual Aids: Meaning – Types of Audio Visual Aids – Radio – Tape Recorder – Television – CCTV – VCR – Interactive Video – Public Addressing Systems and Column Speaker – Tele Teaching & Interviewing – Advantages of Using Audio Visual Aids

UNIT – 8 – Use of Non Projected: Activity Aids

Activity Aids: Meaning – Definitions – Types of Activity Aids – Experimentation – Fieldtrips – Demonstration – Dramatics – Programmes Instruction – Teaching Machine – Computer and Software – CAI – CMI – Advantages of Using Activity Aids

BLOCK 4   TECHNOLOGY BASED LEARNING RESOURCES

UNIT – 9 – Use of Electronic Media and Satellite Technology in Learning

E-Mail: Meaning – Use of E-Mail in Learning – Satellite Technology: Meaning – Satellite Communication for Learning –Uses of Satellite Communication in Learning – CAI – VAI – CCTV – VCD – Audio &Video Conferencing **:** Computer, Mobile , Teletext, Video Text – Advantages of Electronic Media and Satellite Technology.

UNIT – 10 – Use of E-Technology and Resources for Learning

E-Technology: Meaning – Definition – Evolution of Learning Technologies – Development of Technological Infrastructure - Digital Library – E- Journals – Wireless LAN's – Power Line LAN (PLN) – CDROM -Advantages of Using E-Technology Resources.

UNIT – 11 –   Web Based Learning

Web Based Learning: Meaning– Principles of Web Based Learning - Characteristics of Web Based Learning – Information on the Website – Skills for Web Based Teaching Learning – Advantages of Web Based Leaning.

BLOCK 5   INTERNET IN EDUCATION

UNIT – 12 – Internet and Its Applications

Internet: Meaning   - Applications of the Internet – Instructional Possibilities of the Internet – Learning Through Internet – E-Learning **–** Meaning – Definitions – Significance - Uses of E-Learning – Advantages of Internet and E- Learning

UNIT – 13 – Instructional Television, Video Conferencing and Virtual Learning Instructional Television   : Meaning – Application of the Delivery System – Types of Instructional Television- Uses of Instructional Television – Video Conferencing – Meaning – Uses of Video Conferencing – Modes of Video Conferencing – Virtual Learning **–**Meaning – Virtual Space for learning - Nature of Virtual Leaning - Uses of Virtual Learning.

UNIT – 14 – M-Learning – Online Learning

M-Learning: Meaning &Definition – Significance- Use of M-Learning Technology

Online Learning: Meaning – Activities of Online Learning methods – Online Teaching – Tutorials – Assignments – Discussion – Uses of M- Leaning and Online Learning

SUGGESSTED READINGS

- **Abaya Mawof (1991)** Instructional Design and the systems approach adoption by   faculty in college of education, Ph.D. The University of Toledo in dissertations   abstracts International Vol.52. No.7.January 1992 PP2509-A

- **Billwin (1987)** International design and self designing systems. Journal of educational Technology October, Vol XXVII, No.10 PP- 31-34

- **Brown, H.D (2000) ,** Teaching by Principles: An Interactive Approach to Language Pedagogy, New York: Longman

- **Chauhan S.S (1981)** Innovations in Teaching – Learning Process vikas Publishing House PVT LTD- PP- 47.56

- **Liao Tai- Chu (1989)** Educational and Instructional Technology in China Past and   Present Educational Technology TI 26, 3, P 262

- **Luren, C., Neaesu, I, Safta, C.G., &Suditu, M. (2011),** Thestudy of the Relationship between the Teaching methods and the Learning Styles. The Impact upon Students academic conduct.

- **Pillay G.S (1991)** Instructional Designing, Nirmal Publications Madurai-14.

- **OrlichD.C.,Harder R.J Callahan R.CTrevisanM.S.,Brown A,.H., (2010)** Teaching Strategies: guide of Effective Instruction, Ninth Edition Wadsworth, cengage learning.

- **RegeluthC.C.(2013)** Instructional Design Theories and models: A new Paradigm of Instructional Theory, London; Routledge.

- **Reiser,R.A.,&Dempsey,J.V. (2011)** Trends and issues in instructional design and technology Pearson.

*****