

ASSURE Model of Instructional Design

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This article is about the ASSURE Model of Instructional Design.

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Purpose

This ASSURE Model is a model of instructional design which guides the integration of technology into the curriculum for learning improvement (Alias & Hashim, 2012); “a sequence of operations developed for planning of technology use that helps teachers to design and improve the most convenient educational environment” (Sezer, Yilmaz & Yilmaz, 2013). What distinguishes it from its precursors, is that it’s “main perspective is on how to integrate media, any kind of media, into instruction in a proper and effective way in terms of learning outcomes” (Botturi, 2003).

Developers

In an interview which was part of the History Makers Project for Association for Educational Communications and Technology (AECT), Dr. Robert Heinich clarifies the confusion concerning who developed the ASSURE Model, stating “On one of the trips from Bloomington to Indianapolis, it suddenly sort of came to me, I mean it just started falling into place.....I’m the one who thought of the idea of the ASSURE Model,” (Heinich, 2012).

The earliest mention of the ASSURE Model is in the 1989 text ‘Instructional Media: The New Technologies of Instruction’ by authors Robert Heinich, Michael Molenda and James D. Russell. Later Gustafson & Powell (1991) refer to it as the Heinich, Molenda and Russell Model of Instructional Design. With later editions of the aforementioned text, new authors like Sharon Smaldino and Deborah Lowthers came to be associated with the model.

Robert Heinich

As a New Yorker he got involved in Instructional Design as a result of his early passion for poetry. He enjoyed recording poetry with his friends. His interest progressed from audio recordings to the use of film. In 1946 he enrolled into Colorado State College and became a student assistant in a department which used audiovisual equipment. This created the avenue which spurred him into his career in instructional design (Heinich, 2012).

From 1967 he spent time developing films, materials and other instruction materials. He later published a monograph while working in Double Day Publishing. In 1969 he joined Indiana University as full professor until retirement in 1990. Within this period, he served as president of AECT and of the AECT Foundation. His awards include a Presidential Citation of the International Society for Performance and Instruction and a Trail Blazer Award from Northern Colorado (Pearson Teacher Education and Development, n.d.).

Some of his works include:

- Legal Barriers to Educational Technology and Instructional Productivity. (1976)
- Educating All Handicapped Children (1979)
- Instructional Media: The New Technologies of Instruction (1989)
- Instructional Media and Technologies for Learning (1999)
- Technology and the Management of Instruction (2000)

Michael Molenda

Dr. Michael Molenda is from Indiana. From 1972, he was an associate professor of Instructional Systems Technology (IST) at Indiana University. Initially He taught and developed courses in educational television, audio visual administration, media utilization and programmed instruction among others. (Pearson Teacher Education and Development, n.d.).

Dr. Molenda served as chairman of the IST department from 1988 to 1991. He has lectured and consulted on educational technology in countries around the globe. His professional include Fulbright Lecturer in Peru in 1976, membership on the Board of Directors of AECT, 1988-1991,

and presidency of AECT's International Council, 1978-1979 (Pearson Teacher Education and Development, n.d.).

Some of his works include:

- Instructional Media: The New Technologies of Instruction (1989)
- Instructional Media and Technologies for Learning (1999)
- In Search of the Elusive ADDIE Model (2003)
- Educational Technology: A Definition with Commentary (2013)

James D. Russell

By 1993, Dr. Russell was a full Professor of Educational Technology at Purdue University. At Florida State University, he facilitated courses in Instructional Systems Media Utilization, Instructional Design, Instructional Delivery Systems, and Principles of Adult Education. At Purdue's Center for Instructional Excellence, he consulted with faculty and conducted workshops on teaching techniques, instructional improvement. Dr. Russell served as co-director of the Technology Integration Project (Pearson Teacher Education and Development, n.d.).

Some of his works include:

- Instructional Media: The New Technologies of Instruction (1989)
- Instructional Media and Technologies for Learning (1999)
- Instructional Technology and Media for Learning (2015)

The Model

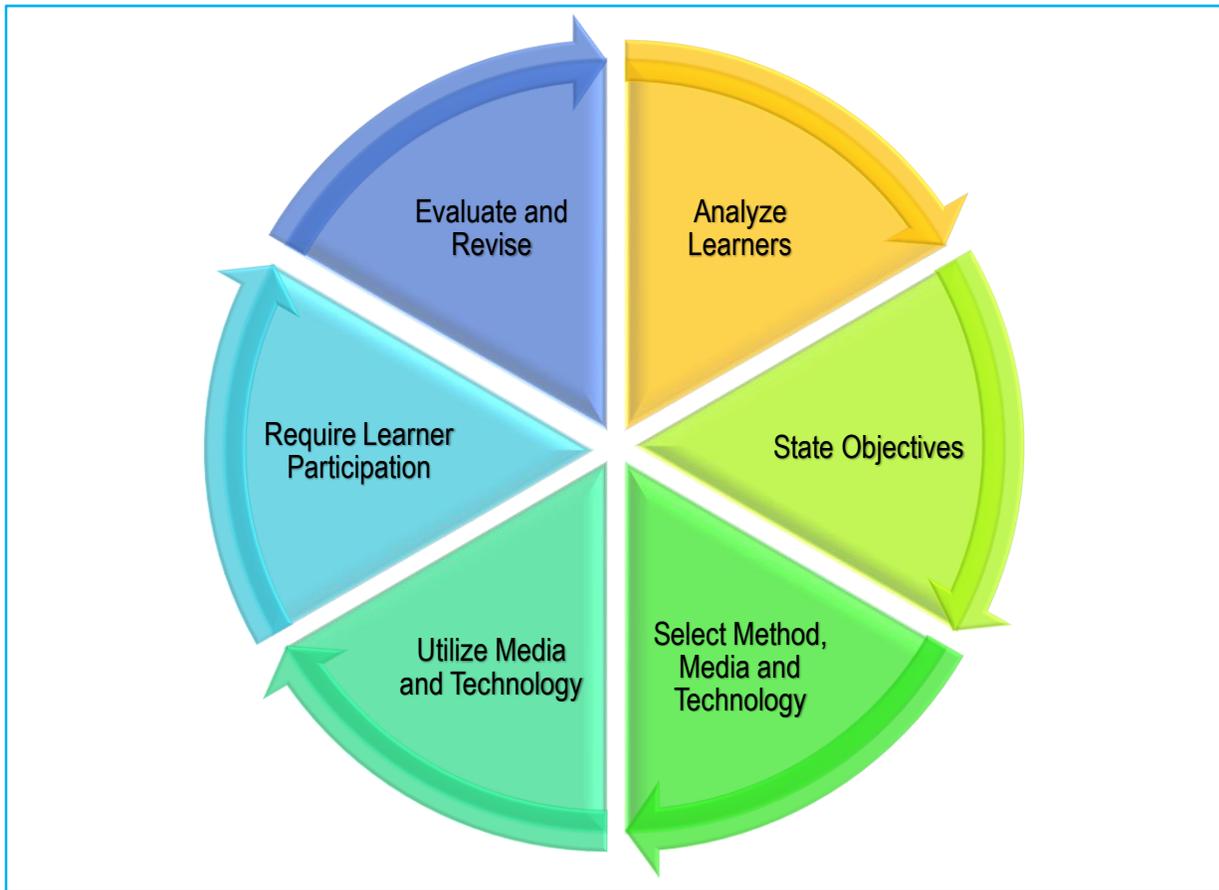


Fig. 1 – Representation of the Process of Instructional Design using the ASSURE Model

The ASSURE Model of Instructional Design “incorporates Robert Gagne's Events Of Instruction to assure effective use of media in instruction,” (Zhou, 2016).

Designing instruction using this model requires that one follow six steps as illustrated here.

	Explanation	Possible Teacher Thoughts
<p>A</p> <p>Analyze learners</p>	<p>“Learner analysis means determining the more operational properties such as general qualities, preliminary information level, learning styles (Sezer, Yilmaz & Yilmaz, 2013) since the developers “cautions teachers that it is not feasible to analyze all learner attributes (Gustafson & Powel, 1991). This guides the plans. The instructional designer needs to be aware of learners’ prior knowledge and skills or lack thereof, their experiences, their learning styles when planning. “By understanding where the learners are at the start of instruction, a teacher will make every effort to assist all learners to be successful in their learning endeavors” (Smaldino, in Grant, 2013).</p>	<p>Who am I designing for?</p> <ul style="list-style-type: none"> a) Age, culture, socioeconomic status ... b) Learning styles, c) prior knowledge, needs, vocabulary <p>Use of pre-tests, inventories and surveys can provide data for this.</p>

<p>S</p> <p>State objectives</p>	<p>Objectives indicate the specific expected performance to indicate acquisition at the end of instruction. “When you have clear student objectives, you can select your materials and determine the focus and purpose of the lesson more wisely” (Gunter & Gunter, 2014).</p> <p>Objectives should follow the</p> <p>A (audience),</p> <p>B (behaviour),</p> <p>C (condition),</p> <p>D (degree) guidelines.</p>	<ol style="list-style-type: none"> 1. Grade 2 students will examine a poster to identify five Nouns. 2. Using buttons, Grade One students will count by five up to 100.

<p>S</p> <p>Select</p> <p>Materials,</p> <p>Media And</p> <p>Methods</p>	<p>“One of the most important roles of technology and media is to serve as a catalyst for change in the whole instructional environment” (Smaldino, Russell, Heinich & Molenda, 2004). The method, materials, the technology should be most effective in accomplishing the objective with the given learner. “Most teachers have little time for designing and developing their own materials” (Gustafson & Powell, 1991) but modification of preexisting materials such as models, actual items, video and audio is also acceptable.</p> <p>Whichever method (Ibrahim, 2015 explains, “Smaldino (1996) suggested the following criteria for selecting technology and media:</p> <ol style="list-style-type: none"> 1. Alignment with standard outcome and objective 2. Accurate to the current information 3. Age appropriateness 	<ol style="list-style-type: none"> 1. Will I use magazines, computer, and internet? 2. Do we have them? 3. Do they work?
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4. Interest level and engagement
5. Technical quality
6. Ease for use
7. Bias free
8. User guide and direction.

Teachers should do test runs especially the technology to ensure that things work as planned and to prepare for eventualities.

<p>U</p> <p>Utilize media and materials</p>	<p>This step requires consideration of how the materials will be used. If in a lesson plan, strategies are examined here.</p> <p>In this stage it is suggested that the five Ps be followed</p> <ol style="list-style-type: none"> 1. Preview your selection in relation to the learning objectives 2. Prepare devices, media, and materials. 3. Prepare the environment – think of where learning will take place. 4. Prepare the learners – use proper “warm-ups” 5. Provide the learning experience <p>(Whitman, Fair, Deal, & Twigg, (2013).</p>	<p>Let us use media and materials to help engage kids actively in learning process.</p>
<p>R</p> <p>Require Learner Participation</p>	<p>This “emphasizes the importance of keeping learner actively involved (Gustafson & Powell, 1991) in the instructional process. Feedback and practice are part of this stage of the process.</p>	<ol style="list-style-type: none"> 1. What questions will I ask? 2. How will they participate?

<p style="text-align: center;">E</p> <p>Evaluate and Revise</p>	<p>Helps teachers assess student learning, as it relates to the goals identified and objectives set. Teachers also use this to evaluate instruction.</p>	<ol style="list-style-type: none"> 1. Was it effective? 2. What can be improved?

Fig: 2 – ASSURE Model of Instructional Design Breakdown

Pros

- There are several benefits of using the ASSURE model:
- It can be used not only in planning large units, but for small units (Tuzun, et al. 2016) and also for simple lessons.
- It is practical and easy to use. (Gustafson & Powell (1991) explain that “The obvious relationship of their steps to their “real world” and its practical guidance and structure make it easy to understand and apply.”
- It is suitable for most types of learners.
- In this the 21st century this model allows for integration and development of 21st century skills and more precisely, technology in the teaching and learning process.
- It increases “the effectiveness of the process by including media and technologies in the process, which other instructional design models do not do (Smaldino, Russell, Heinich & Molenda, 2005, in Tuzun, et al. 2016).
- This is a learner centred or student centred model. It outlines the performance objectives but also, unlike other models one step highlights the learner and how he will participate in the process.

Cons

- Unlike the other models like Addie, it lacks a visual however it is easy to create one.

Lesson Plans

Here are a few lesson plans which illustrate the use of this model.

Author	Subject	Audience	Location
1. Beatriz Rodriguez	Calculus	16 – 18 yrs	https://www.scribd.com/doc/30621425/Final-Project-ASSURE-Model-Lesson-Plan
2. Megan Murtaugh	C Life Science	6 – 7 yrs	http://www.meganmurtaugh.com/assure-lesson.html
3. Shawnette Celes	Social Studies	12 -13 yrs	http://www.slideshare.net/s.celes/assure-lesson-plan-6th-grade-science-presentation

Research and Publications

Research into the use of this model includes:

1. *The Adaptation of a Residential Course to Web-Based Environment for Increasing Productivity by Tuzun et al (2016).*

This researcher examined the use of the ASSURE model of instructional design to examine “the design process of a blended learning environment using a learning management system to transform Basic English courses into the web-based distance learning format in the School of Foreign Languages at a large scale research university (Tuzun, et al 2016).

2. *Experiences from the Process of Designing Lessons with Interactive Whiteboard: ASSURE as a Road Map by Bahar Baran (2010).*

The researcher examined university level students use of the ASSURE model of instructional design, which developing instruction using an interactive whiteboard. Results indicated that “Most of them had problems to find educational software to use with interactive white board. That is, their primary problem was with the “select instructional methods, media, and materials” step of the ASSURE model” (Baran, 2010).

3. *An application of ASSURE model to solve contextual problems in virtual classroom proceedings by Lopez-Betancourt, A. & Garcia Rodriguez, M.L. (2015).*

The researcher investigated the use of the ASSURE model of instructional design in Mathematics problem solving at the university level. “Findings indicate that ASSURE model significantly supported the instructional program design, and the ASSURE model allowed conform the materials into a coherent structure benefiting the student learning during problem solving in context” (Lopez-Betancourt, Garcia Rodriguez, 2015).

4. *Developing a Pre-Service Teachers' Capacity of TPACK Integration by Designing a Math Lesson with ASSURE Model by Hsing-Wen Hu (2015).*

The research examined the use of the ASSURE model of instructional design for Mathematics teaching among pre-service teachers. “The outcome of this study shows that PSTs are able to design TPACK math lessons sufficiently by applying the ASSURE model” (Hu, 2015).

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Reflection on the Process

“Projects are focused on questions or problems that "drive" students to encounter (and struggle with) the central concepts and principles of a discipline” (Thomas, 2000). Indeed I was able to engage in this Project Based Learning task from a learner’s perspective, struggling to solve the problem of unavailability of a Wikipedia article on the ASSURE Model of instructional development.

The Selection

I was intrinsically motivated to complete the task because a) I had a surface understanding of the ASSURE model as the equivalent of an unnecessarily detailed lesson plan and b) I wanted to fulfill my desire to have a Wikipedia article.

The Experience

As a learner I struggled to determine who developed the model and despite the wealth of information, there were several inconsistencies, leaving me to logically deduce when it was most likely developed and by whom. I realized then “that teacher guidance is a critical prerequisite to student learning (Mayers, 2004, in Mergendoller, Markham, Ravitz, & Larmer, (2006), that “technology cannot replace the teacher (Singh, 2006) and that he is crucial in helping students use higher order thinking skills like inferring and evaluating to create their knowledge.

Occasionally, the quantity of information collected seemed overwhelming and unnecessary for generating the artifact, but I developed my 21st century skills using technologies such as Skype and resources like Wikipedia Help chat to collaborate, communicate and complete the task. Those experiences led me to appreciate that with PBL (Problem based or Project Based)

the teachers can feel a “loss of control related to covering the syllabus” Ribeiro (2011) or even what is learnt, for what I learnt from those sources goes beyond the execution of the task.

Throughout the process, I was actively engaged, creating my own knowledge and developing 21st century skills. I now have a more in depth understanding of the model and see how it is being used in lesson planning and unit planning.

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