Instructional Message Design:
Past, Present, and Future Relevance

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So, what happened to IMD?

Has it become irrelevant with philosophical shift from *instruction* to *learning* instead?

Has it been supplanted by other areas of inquiry?

Or maybe there’s just nothing left to say?
Instructional Message Design

Explores how various media and delivery systems might be used more effectively to optimize instructional communications within context-specific instructional situations and learner needs.

Moves beyond deciding what methods are best for bringing about desired changes in student knowledge toward specifying the exact form an instructional communication system should take for optimal learning.

(Grabowski, 1991; Reigeluth, 1983)

Why the “communications” part?

Theoretical/Historical Foundations

• Field has traditionally viewed teaching-learning problems as communication problems.

• IMD literature approaches the instructional process as an instructional communication system with a set of interrelated parts working together to produce learning (Berlo, 1960).
Theoretical/Historical Foundations

Shannon-Weaver Model (1949)

Source ➔ Encoder ➔ Decoder ➔ Receiver

Feedback

Theoretical/Historical Foundations

My mind to your mind…
Your thoughts to my thoughts…

Theoretical/Historical Foundations

WILL PRESS LEVER FOR FOOD

Theoretical/Historical Foundations

““My mind to your mind…
Your thoughts to my thoughts…””
Theoretical/Historical Foundations


...And many more! Including my early career work!!

Bishop, 2001

Current Issues: Philosophical Mismatch

About 1990-ish... enter the constructivists...

*If you want all to be independent, intelligent, confident thinkers who do exactly as I say!"*
Current Issues: Philosophical Mismatch

“We can only evaluate whether meaning is shared by testing the compatibility of our individual meanings: exploring implications, probing more deeply. Of course, no matter how much we probe, we can never be sure that the meaning is shared.”

(Duffy & Cunningham, 1996)

Current Issues: Philosophical Mismatch

“It matters little how we represent ideas and less how we present them. What matters is how the learner is thinking. Since knowledge is mediated by thinking and not by technologies, our goal should focus on providing cognitive tools for helping learners to construct knowledge, that is, to think more productively.”

(Jonassen, 1990)

Current Issues: IMD Definition

Syntheses of generalized principles:

- A “linking science” between learning theory and instructional practice (Fleming, 1993).
- Included chapters on
  - Motivation principles*
  - Perception principles
  - Psychomotor principles*
  - Learning principles* (was “memory”)
  - Concept-learning principles
  - Problem-solving principles*
  - Attitude change principles

* added in 2nd ed.
Current Issues: IMD Definition

Works focused on media attributes:

• Jonassen’s *Technology of Text* (1982, 1985)
• Hartley’s *Designing Instructional Text* (1986)
• Houghton & Willow’s *The Psychology of Illustration* (1987)


Current Issues: IMD Definition

- Term has never really had a precise meaning or set of descriptive parameters that formed the basis for inquiry.
- Research in the area has focused increasingly on highly constrained comparison studies of media attributes.
Current Issues: Methodological Concerns

• Dynamic social systems are not easily reduced to a set of linear, cause-and-effect relationships.

• A system element can only be understood by looking at how it functions in relation to the whole system.

• “A fully developed system of inquiry for educational contexts” will need to exist at the intersection of research and design, with each transforming the other (Rowland, 2008).

Instructional Message Design

Did we throw out the baby with the bathwater?

A New Guiding Framework

• Need to shift away from transmission-oriented communications model foundations.

• Instructional communications are conversations among “a collection of psychological individuals... whose presence is variable and hierarchical” (Boyd, 2004).

• Effective conversation occurs not when meaning is shared, but rather “when beliefs are negotiated through interaction and evolve via goals” (Pangaro, 2008).
A New Guiding Framework

• Need not only be among humans, can be conversations with technology-based systems as well.
• But can no longer conceive of these tools as deliverers of previously designed instructional messages.

Theoretical/Historical Foundations

A Broader Focus

• Need to embrace entire process of conversation, not just linear communication.
• This means exploring the ways in which all participants will represent their thinking while engaged in the discourse.
• In addition to individual cognition and behavior, social and cultural learning, values, and aesthetics should underlie a broader view of instructional design research and practice (Four Pillars, Wilson, 2005).
A Broader Focus

Also involves…

• making more explicit the inherent biases in the media we design.
• embracing the impact affect has on knowledge acquisition and the overall climate of the learning environment.

A New Research Paradigm

“...the skilled practitioner is more likely to make sound judgments on the basis of years of experience than the positivist researcher on the basis of precise research. It is therefore imperative that the cumulative knowledge of practice be nurtured.”

(Sless, 1981)

Has IMD become irrelevant?

No, but needs a new guiding framework.
Has IMD been supplanted?

No, just needs to be better defined.

Does IMD have anything left to say?

Yes! But needs a paradigm shift.