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**ABSTRACT**

While graduate programs in instructional design provide education in communications theory, media research, information systems, motivation theory, and behavioral and cognitive psychology, practice in the field often reflects a more pragmatic approach. In October 1985, Training Magazine surveyed thousands of training professionals responsible for instructional development in business and industry. Results indicate that, although half of respondents did employ some method of writing objectives and conducting evaluation, the percentages of affirmative answers to the following questions were for: (1) write objectives in behavioral terms (60%); (2) assess entry level skills and knowledge (64%); (3) base media and method decisions on objectives (78%); (4) test programs as they are developed (65%); (5) evaluate the effectiveness of programs (65%); and (6) use feedback and test performance to revise (87%). Seventeen percent agreed with the statement "Our organization is too small to justify the processes and procedures implied by the above items," and 29% said yes to "Our management would never stand still for the time necessary to follow the processes and procedures implied by the above items." Results also indicate that only 27% of respondents reported using computer-based training or instruction, and just under 12% reported hooking a computer to a video or videodisc player to deliver training. It is concluded that graduate educators have a responsibility to do more than respond to the field, and they are encouraged to define it through research and development and model it through the graduates they produce. A list of references is provided. (JB)

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# WHAT YOUR PROFESSOR NEVER TOLD YOU ABOUT THE MUNDANE PRACTICE OF INSTRUCTIONAL DESIGN

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## Introduction

Graduate education provides students with access to our proud and varied theoretical underpinnings. There is communications theory; media research; information systems; motivation theory and behavioral and cognitive psychology. At the university we enjoy Merrill and Reigeluth; Gagne and Briggs; Markle and Tiemann; Fleming and Levie; Cronbach and Snow. But in the field, when a training professional is asked what references he or she wants to take to the moon, it's Robert Mager and... the bible. No kidding, that's what a major national survey found.

This presentation briefly reviews some hallowed research and theory traditions, ones I too have shared with generations of students. Then we will look at what is **actually happening** in the field. My experience in corporations, agencies and schools and a recent national survey suggests that the real world practice of instructional design bares only a kissing cousin resemblance to the chapters of Dick and Carey.

## Textbook Instructional Design

The literature offers no end of suggestions for the systematic and effective development of instructional products and services. This is just a brief and partially attributed listing:

- There are scores of models, with endless arrays of boxes and arrows.

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- Most proponents of the models share belief in needs assessment; articulating behaviorally stated objectives; using objectives to determine strategies/media and evaluation criteria; and actually carrying out some form of assessment to determine if the product or service solved the initiating problem.

- Most of the models differ in allegiance to behaviorist or cognitivist perspectives, with some writers going so far as to sound a death knell for instructional development if we refuse to throw off our behaviorist shackles. (Low, 1981; Sprague, 1981, etc.)

- Presumably, the particular theoretical underpinnings make a significant difference in the practice of instructional development.

- The details of instructional design (for example, the development or classification of objectives a la Mager or Gagne) matter.

- Writers and researchers in instructional development and educational technology herald the dawn of an era of CBT and interactive video/videodisc. (Refer to issues of Educational Technology or The Journal of Technological Horizons in Education.)

- Our literature and conferences suggest great interest in authoring systems and languages which enable subject matter experts and classroom teachers to design CBT without being programmers themselves.

- Graduate education is a valuable undertaking.

### The Practice of Instructional Design

I have taught instructional design for nearly a decade. I've taught it to graduate students at the University and to course developers and training specialists in settings as diverse as telephone companies, banks, 7-11 training centers, and the United Way. I've had hundreds of discussions with instructional designers and their managers about what they do do, what they are expected to do, and what they wish they knew how to do.

TRAINING magazine's October 1985 census issue adds a splendid data base to my experience. This past summer they surveyed thousands of training professionals. I'm convinced that this survey provides us with a credible picture of current practice-- not the way it **ought** to be-- but certainly the way it **currently is in the cubicles across the nation where people who call themselves designers, developers, trainers, education specialists and educational technologists labor.**

- There is little talk about instructional design models in the field. Most training departments fight fires responding to needs and issues initiated by others. It is hard to find the time to cogitate on Florida State's or Michigan State's model when the Director of Data Processing is breathing down your neck with a request for a new course.

- The TRAINING study did, however, find something which supports the potency of systematic approaches to training and development. They asked respondents to respond affirmatively or negatively to these two questions: "We're too small to justify ISD;" and "Management wouldn't stand still for ISD." If respondents said yes to either, they were much more likely to report that training was less important in their organization now than it was two years ago. If they said no to both or either, they were 4 times as likely to report increased budgets! Ron Zemke's commented, "Those who practice a systematic approach fare better in their organizations."

- Have you ever for a moment doubted the omnipresence of objectives and evaluation in the real world of instructional development? The **good** news is that more than half of responding professionals in the TRAINING survey say they do indeed....

- write objectives in behavioral terms
- assess entry level skills and knowledge
- base media and method decisions on objectives
- test programs as they are developed
- evaluate the effectiveness of programs
- use feedback and test performance to revise

But the **bad** news is that the percentages responding affirmatively are so low.

- write objectives in behavioral terms (60%)
- assess entry level skills and knowledge (64%)
- base media and method decisions on objectives (78%)
- test programs as they are developed (65%)
- evaluate the effectiveness of programs (65%)
- use feedback and test performance to revise (87%)

If practitioners write objectives only 60% of the time, how often do you imagine that they classify them? Or use those classifications to make decisions? Or discuss the distinctions between Mager, Merrill and Gagne-- with their implications for instructional design?

- Seventeen percent agreed to the statement, "Our organization is too small to justify the processes and procedures implied by the above items." And 29% said yes to, "Our management would never stand still for our taking the time to follow the processes and procedures implied by the above items."

- News for the front end analysis fans: not even 40% report conducting needs assessments and task analyses! Forty-seven percent do discriminate between training and non-training needs.

- Theory is of much more interest in the academy than it is to the practitioner. Only in the largest of corporations or agencies (e.g. the military or AT&T) is there support for discussion of the theoretical bases for instructional development standards and guidelines.

- Cognitive psychology and motivation theory are making small, slow inroads into the practice of instructional design. Large corporations, often in the telecommunications and transportation industries, and the military services, are reworking their standards and guidelines to include new perspectives and accommodate new technologies.

- The vast majority of computers that are available in industry and agencies are used for data management and word processing **not** CBT. **In 1985 computers are more likely to be used for instructional purposes in the public schools than they are in corporate America.**

- The TRAINING survey found that we are still a long way from CBT in every corporation. In 1985, 27% of respondents report using CBT or CBI. When CBT is used, it is used to teach about computer related topics. Computers are only rarely a means to provide training for non-computer topics like leadership or basic sales skills.

- Instructional interactive video and videodisc, all the rage at San Diego State, is just beginning to have an impact on the field. Just under 12% of TRAINING's respondents report hooking a computer up to video or a disc player for training. Interactive videodisc, the most promising of those delivery systems, is being used in fewer than 3% of the settings.

- Graduate education has mixed impact. Post graduate certificates and master's degrees bore no statistically significant relationship to earning power. The doctorate did, adding \$4735 to annual earnings.

- Training professionals acknowledged the significance of graduate education by ranking formal education second, after OJT, as a contributor to their career development.

### Conclusion

While we may lament that theory and practice do not match, remember that it has been a very, very good couple of years for our profession. We've enjoyed an optimistic employment picture, even with the downturn in the computer industry. And budgets are continuing to rise, albeit slowly. These days, everyone, even John Naisbett, Ronald Reagan, and my mom, is interested in technology and training.

So what can we learn from the discrepancy between what we are talking about in the academy and what happens in the field?

1. That our models, research and theories are not having the impact on the field that we desire.

2. That academics must spend some time speculating *why*. Is it for lack of effort on our parts? A mismatch between our literature and the reading habits of practitioners? The inability of our graduates to make clear cases for systematic and theory-based approaches? An absence of lean and sturdy prescriptions for practice based on this research and theory?

3. That practitioners, too, must self-evaluate. Is the current state of practice sufficient? Do they take time to evaluate themselves and the assumptions under which they operate? Are practitioners availing themselves of new ideas, theories and technologies? Are their skills current? Are they allowing the bottom line to rule them without pressing back on behalf of more optimal instructional designs?

For the past decade, academics have turned to the field for illumination on what we should teach our graduate students. How many studies have there been which ask employers to please tell us what they want our graduates to be able to do? Dozens, maybe hundreds. While that is certainly one crucial source of information, it is not the only source.

The field is ruled by concern with getting the job done; the academy must focus on how it might be done better. There is obvious interdependence.

What I've experienced and what TRAINING found reminds me of a responsibility that graduate educators may overlook in our haste to be relevant to the needs of the field: **We must do more than respond to the field. We must define it through the compelling nature of the research and development that we do and model it through the superlative quality of our graduates.**

Nodding in agreement isn't good enough. I am asking every professor and student to think how he or she might contribute to the improved practice of instructional design. First think about it. And then, go out and do it.

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