

A Profile of the Instructional Developer in Higher Education and in Business

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We who call ourselves "instructional developers" are members of a relatively new profession which is still in search of a definition. Who are we? What is it that we *do* which we define as instructional development? What are the "gaps" between the theoretical frameworks upon which we operate and our actual ID practices? Do ID practitioners in higher education view the ID process in the same way as their colleagues in business? Do ID'ers in these two settings practice the same behaviors? These questions have received much attention in recent literature (Bass, Dills, & Lumsden, 1978; Braden & Terrell, 1978; Patton, 1980; Ricks, 1980; Silber, 1978).

In this study, instructional development professionals from both higher education and business/industry were surveyed concerning current ID practices. Basically, the survey was designed to obtain a "snapshot" of who instructional developers are and what they do in carrying out the ID process. The results of the survey, conclusions based on these data, and a discussion of the implications for the ID profession follow.

Since this study deals with survey research, the reader is reminded of possible sources of bias. As is the case with all survey research, the "self-report" nature of the data lends itself to possible bias. Also, since respondents were members of at least one professional organization, they may be more informed than non-members (who were not included in this study) regarding at least some aspects of the ID process.

Research Questions

1. To what extent does the process of instructional development (ID) differ in

its actual practice in higher education from its actual practice in business/industry?

2. To what extent do ID professionals in higher education differ from those in business/industry regarding the instructional development process as it "should be" practiced under "ideal circumstances"?

3. What differences, if any, exist between the instructional development process as it is now practiced and as it "should be" practiced under "ideal circumstances" by ID professionals in higher education and in business/industry?

Sampling Procedures

A current, comprehensive list of instructional designers/developers could not be found (and probably did not exist). Therefore, selection of the survey was conducted by obtaining mailing lists from two professional organizations most likely to attract instructional development professionals to their membership: the Association for Educational Communications and Technology's Division of Instructional Development (AECT/DID), and the American Society for Training and Development's (ASTD) Educational Institutions Special Interest Group and ASTD's Career Development Division.

Both organizations provided nationwide membership lists (respondent candidates) from both educational and non-educational (e.g., business, industry, government, and the military) institutions and organizations. The lists provided included active members of the respective organizations as of February 20, 1982. A total of 5,780 names was received from both organizations. Respondent candidates were selected from these lists based on either job title (e.g., "instructional designer," "instructional developer," "educational consultant") or, in cases where a title was not given, by reputation as an ID professional (based on publications or per-

sonal contact). Only candidates from higher education and business/industry were selected. A nationwide list of 826 respondent candidates was thus obtained.

Approximately two-thirds of the candidates were from business/industry (BI) and one-third from higher education (HE). The exact numbers involved were not possible to determine at the time due to a number of respondents without titles and using home addresses. However, this represented a very small percentage of the 826 candidates (under 3%) and was not considered significant enough to affect the 2/3 to 1/3 ratio for the sampling. From the total of 826 response candidates, 50 were randomly selected for participation in the pilot test of the survey, leaving 776 response candidates for the final survey. Twenty-six names of candidates were then deleted for whom no titles or work addresses were provided. This was done in order to further reduce the impact of unspecified work environments on the established sampling ratio. This resulted in a sample of 750 respondents for the final survey: 250 respondent candidates in HE and 500 respondent candidates in BI.

Those surveys received from higher education respondents who were not actual ID practitioners (e.g., teachers of ID courses) were discarded, since the instrument attempts to assess only ID practices.

ID Behavior Items

The pilot survey instrument was developed as a result of an extensive examination of existing models of instructional design/development, as well as relevant literature dealing with the instructional development process. The ID behavior items in the survey were drawn from six ID models—models chosen because they are representative of the "systems approach," are widely used in both educational and non-educational settings, and because they emphasize

different things. The six models selected were:

1. Interservice procedures for Instructional Systems Development Model (Branson, 1975)
2. The Syracuse Model for Course and Curriculum Design, Implementation, and Evaluation (Diamond, Eickmann, Kelly, Halloway, Vickery, & Pascarella, 1975)
3. Systems Approach Model for designing Instruction (Dick & Carey, 1978)
4. Instructional Systems Design Model (Gagne & Briggs, 1979)
5. The Teaching Research Model (Hamreus, 1968)
6. The Instructional Design Plan Model (Kemp, 1977)

Questionnaire items were constructed concerning specific behaviors conducted in the ID process. The general model of instructional development proposed by Durzo, Diamond, and Doughty (1979) was used as a conceptual framework to categorize the specific items into three major "phases": Define, Develop, and Evaluate. Behaviors which involved the revision of instruction were categorized under the last phase (i.e., Evaluate). In the survey instrument the items were scrambled so as to lessen the possibility of response "patterns." The survey items are listed in Table 2.

Four of the survey items were included in the instrument as "experimental items" in order to determine the presence (or absence) of behaviors not usually explicitly stated in ID models. Item 2 attempts to ascertain the necessity of "updating" ID personnel on a project's progress and may be an indication of the degree of attention to one of the aspects of a systems approach—effective communication among members of an instructional development team. Item 3 ascertains if the respondent adopts a "proactive" stance regarding instructional needs in an organization. Traditionally, the role of the instructional developer has been more "reactive," serving primarily as a support resource for already established organizational goals and priorities. Item 5 is similar to item 2, except that, in this case, the issue at stake is effective communication with the ID client. Such effective communication early in the ID process can help to clarify goals, establish expectations, eliminate time wasted in developing unwanted or unneeded instruction, and establish rapport between client and a developer. Item 12 is a behavior often advocated by developers and welcomed

by clients. However, field site visitations are often prohibited because of time, budget, and staff constraints—and are seldom explicitly advocated in ID models.

Pilot Testing of Survey

The pilot survey instrument was mailed on March 16, 1981, to 50 respondents, all members of the group of 826 candidate respondents identified for participation in this study. None of the 50 participants in the pilot test participated in the final survey. A total of 24 usable surveys were obtained, seven from business/industry (BI) and 17 from higher education (HE).

An item analysis of the completed pilot surveys, focusing on inter-item correlations, was conducted. In addition, respondents were asked to write any questions, comments, or suggestions for improving the instrument—or for revising any particular item. As a result of this input, minor revisions were made in the wording of four items.

Reliability measures for both the "actual" and "ideal" scales were very satisfactory. The coefficient alpha reliability level for the "actual" scale (26 items) was .89; that for the "ideal" scale (26 items) was an even higher .92. The minor revisions were deemed sufficient to prepare for the construction and implementation of the final survey.

Mailings

The initial mailing of 750 surveys resulted in 272 usable responses. Three separate follow-up mailings were then sent out over a period of approximately two months. The first follow-up mailing was sent to 455 respondents, the second follow-up mailing to 364 respondents, and the third follow-up mailing to 26 respondents. A total of 566 responses was obtained from all four mailings, of which 155 were discarded. Primary reasons for discarding responses were: an inability to respond to the ID items (see Table 2) due to the nature of the respondent's job; inability to respond to the ID items due to the nature of the respondent's employing organization; inability to respond to the ID items due to lack of sufficient knowledge of the respondent regarding instructional development; the addressee had left the position (no forwarding address given); or the survey was completed, but the respondent warned that his/her responses might be inappropriate for some reason.

Of the 750 surveys mailed, a total of 411 usable surveys were received (262 from BI and 149 from HE), representing a net return rate of 69 percent.

Survey Results and Discussion

A descriptive listing of the demographic items was performed using

Table 1.
Survey Demographic Data

Demographic Item	Business/Industry (percent)	Higher Education (percent)
1. Respondent has been working actively in the development of instruction for six or more years	59.5	71.8
less than six years	40.5	28.2
2. Respondent holds a graduate degree:		
Master's	46.6	29.5
Doctorate	15.6	43.6
Post-Doctoral Studies	5.7	22.1
Total Graduate Degrees	67.9	95.2
No graduate degree	32.1	4.8
3. Respondent currently holds membership in two or more ID-related professional organizations	56.9	71.8
less than two	43.1	28.2

the Condescriptive program of the *Statistical Package for the Social Sciences* (SPSS) by Nie, Hull, Jenkins, Steinbrenner, and Bent (1975). Demographically, the survey concentrated on the respondents' level of experience in ID, their level of formal education, their degree of affiliation with ID-related professional organizations, and their level of commitment to remain active in the ID field. The results of this analysis may be found in Table 1.

In addition to being more experienced in the development of instruction (demographic item 1), higher education respondents also possessed a higher level of formal education. A majority of the respondents in both environments (BI and HE) reported that they hold membership in two or more ID-related professional organizations. The survey did not attempt to measure the "quality" or intensity of respondent's involvement, only the number of ID-related organizations in which the respondent held membership. A majority of developers in both groups planned to remain involved in the development of instruction for at least four more years. Table 2 lists the twenty-six (26) ID behavior items and the mean responses (in percentages) of both groups of respondents on the "actual" and "ideal" scales.

Differences between related group means were calculated (Chase, 1976) to identify any significant differences between the mean responses in each of the five following comparisons:

1. Business/Industry Responses: Actual vs. Ideal
2. Higher Education Responses: Actual vs. Ideal
3. Actual Responses: Business vs. Education
4. Ideal Responses: Business vs. Education
5. Total Business and Education Responses: Actual vs. Ideal

The results of this portion of the analysis are summarized in Tables 3 through 5.

Instructional developers in both higher education (HE) and business/industry (BI) are affected by the constraints in their respective organizations. While this may seem like a statement of the obvious, what needs to be emphasized is that each of these environments (HE and BI) seem to impose only limited, unique constraints which are not also imposed by the other environment. For example, ID professionals in Education more frequently use a learn-

Table 2.
Mean Responses to Survey Items
(Rounded to Nearest Percent of Time Practiced)

ID BEHAVIOR ITEM	ACTUAL		IDEAL	
	BI	HE	BI	HE
1. An assessment is made of constraints (e.g., fiscal, personnel, time) relevant to development of instruction <i>before</i> any actual development of instruction begins.	66	65	89	88
2. Once the personnel who will work on a given ID project have been selected, they are "updated" on the progress made thus far on that project.	76	73	95	95
3. I am the person who makes others in my organization aware of instructional needs in the organization.	57	46	60	55
4. Data on a client's instructional needs are systematically analyzed.	54	58	88	90
5. Proposed instruction is first outlined and reviewed with both the ID personnel and the ID client before the actual development work begins.	61	71	88	93
6. The entry level behaviors (including knowledge and skills) of learners are assessed before development of instruction begins.	51	52	88	91
7. Whoever has the responsibility of developing instruction selects the ID personnel who will work on that project.	64	56	83	77
8. Prior to the actual development of instructional materials, the scope of instruction (re: number of learners, time required for instruction, and content parameters) is clearly established for that instruction.	72	72	91	92
9. Instructional media (e.g., films, textbooks, audiotape) are selected based on their relevance to one or more learning events (instructional activity).	81	78	95	95

ID BEHAVIOR ITEM	ACTUAL		IDEAL		ID BEHAVIOR ITEM	ACTUAL		IDEAL	
	BI	HE	BI	HE		BI	HE	BI	HE
10. Course materials are selected from more than one source based on an analysis of instructional needs.	78	74	90	91	18. Small segments of the instruction are evaluated in order to correct deficiencies (i.e., formative evaluation).	61	61	86	91
11. Instructional needs are clearly differentiated from other organizational needs (e.g., communication difficulties or management problems).	57	57	87	86	19. The entire instructional product is evaluated in order to determine its effectiveness.	73	70	95	96
12. The actual location where the instruction will be utilized (e.g., classroom, an assembly line, the cockpit of a new aircraft) is visited by at involved) prior to the actual development of instructional materials.	66	62	84	88	20. Instruction is modified to meet changing needs.	79	70	97	94
13. Instructional objectives are stated in behavioral terms.	73	67	92	86	21. Learners are evaluated in relation to some predetermined criteria.	57	64	86	90
14. The types of learning required in the instruction are analyzed in terms of some specified "taxonomy" of levels of learning (e.g., Bloom, Gagne, etc.).	34	45	67	74	22. Feedback from learners regarding the instruction is obtained for making possible modifications in the instruction.	82	73	95	95
15. Remedial instruction is available to learners who need it.	44	47	77	84	23. Evaluation measures (tests) are directly keyed to the stated objectives of the instruction.	67	67	92	95
16. Learner achievement is measured (tested) after instruction has been completed.	58	74	88	92	24. The environment(s) in which the instruction takes place is (are) selected based on suitability for achieving the objectives of the instruction.	61	49	89	89
17. Provisions are made in the development of instruction for individual differences among learners.	52	48	83	84	25. Staff and management controls for the ID process are established through utilization of some specified technique (e.g., PERT, PPBS, flow charting, decision tables, etc.).	36	39	72	76
					26. Instructors are trained before they interact with learners.	75	54	96	90

ing taxonomy (item 14) than do professionals in business. Effective use of a learning taxonomy requires a relatively sophisticated approach to the ID process, one which is based (in most cases) on knowledge acquired in formal (and usually graduate-level) coursework. Developers in higher education also practice such behaviors as testing of learners (item 16) and the use of criterion-referenced learner evaluation (item 21) significantly more often. Testing is more of an expectation in higher education where test scores are used as a basis for evaluating student performance. Education respondents review proposed instruction with their "clients" (item 5) significantly more often than do Business respondents.

Respondents from Business seem to

enjoy a greater degree of autonomy than do their Education counterparts. Environmental factors, as opposed to individual abilities and dispositions, may be largely accountable for these differences. As members of training and development units instructional developers are often the only personnel in a business organization believed to have expertise in the development of instruction. This may help to explain why they are able to engage in certain behaviors significantly more often (.05 or beyond) than are ID professionals in higher education.

For example, Business respondents inform their superiors of instructional needs in their organization (item 3), select their own personnel for ID projects (item 7), and select the learning en-

vironment based on instructional objectives (item 24) significantly more often (.05 or beyond) than HE respondents practice these behaviors. Another attribute of ID in business/industry is the relatively rapid change in the needed instruction and in the learner population itself. It is not surprising, therefore, that instruction is modified more often in BI organizations (item 20), since needs change more often. Since learners are evaluated less often in BI organizations, learner feedback via written or oral course evaluations may often be the only data available concerning the "effectiveness" of the instruction.

Consequently, learner feedback is obtained (item 22) significantly more often (.05 or beyond) by Business respondents. While developers in higher educa-

Table 3.
Differences Between Related Group Means (in z values)
for Actual and Ideal Responses from Business and
Education Subgroups

Item	Business	Education
	Actual/Ideal	Actual/Ideal
1. Assess constraints	11.16	8.72
2. Update personnel	11.02	8.18
3. Inform organization	1.18	2.89
4. Needs analyzed	13.21	11.39
5. Client outline	11.79	7.49
6. Entry behaviors	16.59	14.22
7. Select personnel	7.49	5.59
8. Establish scope	10.64	7.82
9. Select media	7.80	6.97
10. Select materials	6.44	6.37
11. Differentiate needs	14.13	9.92
12. Site visitation	6.96	7.82
13. Behavioral objectives	9.81	6.36
14. Learning taxonomy	12.63	8.71
15. Remedial instruction	11.90	12.12
16. Test Learners	13.04	6.84
17. Individ. differences	13.95	13.39
18. Formative evaluation	11.13	10.58
19. Summative evaluation	12.64	10.76
20. Modify instruction	12.08	10.78
21. Criterion evaluation	12.47	9.34
22. Learner feedback	7.50	9.04
23. Tests related to objectives	11.02	11.06
24. Environment(s) selected based on objectives	13.33	13.91
25. Staff/management controls	13.54	11.65
26. Train instructors	11.04	11.38

Table 4.
Differences Between Related Group Means
(in z values) for Actual and Ideal
Responses of Combined (Business and Education) Group

ITEM	ACTUAL/IDEAL DIFFERENCES
1. Assess constraints	14.13
2. Update personnel	13.70
3. Inform organization	2.66
4. Needs analyzed	19.43
5. Client outline	13.76
6. Entry behaviors	21.74
7. Select personnel	9.28
8. Establish scope	13.22
9. Select media	10.42
10. Select materials	8.95
11. Differentiate needs	17.25
12. Site visitation	10.17
13. Behavioral objectives	11.49
14. Learning taxonomy	15.23
15. Remedial instruction	16.46
16. Test learners	14.33
17. Individual differences	19.05
18. Formative evaluation	15.20
19. Summative evaluation	16.59
20. Modify instruction	15.94
21. Criterion evaluation	15.51
22. Learner feedback	11.36
23. Tests related to objectives	15.21
24. Environment(s) selected based on objectives	18.80
25. Staff/management controls	17.76
26. Train instructors	15.08

NOTE:

(1) z values equal to or greater than + or -1.96 indicate significant differences at the .05 level or beyond.

(2) ALL z values indicate higher mean for the IDEAL SCALE RESPONSES.

tion often work with clients who are, in fact, experienced university faculty, the necessity of "training" these faculty to interact with learners and to become familiar with the content of the instruction is greatly reduced. This may be compared to the situation in business in which instructors are "line personnel" (technical experts or managers) who have a great deal of content knowledge, but have little experience in the effective delivery of instruction. The training of instructors (item 26), therefore, becomes necessary more frequently in business/industry than in higher education.

Summary

This article has highlighted some of the isolated differences that were pointed out in the survey between instructional developers in higher education and those in business/industry. However, when viewed holistically, the instructional development process is basically practiced the same in both settings. This may, perhaps, be more easily seen when one studies the responses on the "ideal" scale. Respondents from

business/industry believe that they should practice all of the twenty-six (26) ID behaviors, except item 3 (informing the organization of its instructional needs), significantly more often (.05 or beyond) than they practice them now. Respondents from higher education believe that they should practice all twenty-six (26) ID behaviors (without exception) significantly more often (.05 or beyond) than they practice them.

Developers in both settings view the ID process in pretty much the same way; both indicated that the ID behaviors listed in the survey should be practice significantly more often than they are now practiced. The constraints imposed by the respective environments have been used to explain the existing differences in ID practice, as opposed to any real differences in views of the ID process—either theoretical or pragmatic. As professionals, developers must learn to deal in an effective and proactive manner with their environments; or they must face the possibility of wider gaps between "ID as it should be practiced" and ID as it is practiced in

the day-to-day reality of professional work.

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Table 5.
Differences Between Related Group Means
(in z values) for Business and Education
Subgroups on Actual and Ideal Response Scales

Item	Business Actual/Ideal	Education Actual/Ideal
1. Assess constraints	0.37	0.42
2. Update personnel	0.85	0.57
3. Inform organization	3.74	1.47
4. Needs analyzed	-1.37	-0.89
5. Client outline	-3.24	-2.84
6. Entry behaviors	-0.35	-1.53
7. Select personnel	2.01	2.40
8. Establish scope	-0.05	-0.37
9. Select media	1.02	-0.007
10. Select materials	1.29	-0.02
11. Differentiate needs	-0.05	0.50
12. Site visitation	1.05	-1.48
13. Behavioral objectives	1.89	2.82
14. Learning taxonomy	-3.40	-2.55
15. Remedial instruction	-1.06	-2.85
16. Test Learners	-5.43	-2.21
17. Individ. differences	1.41	-0.46
18. Formative evaluation	-0.08	-2.64
19. Summative evaluation	0.85	-0.90
20. Modify instruction	3.64	2.16
21. Criterion evaluation	-2.32	-2.08
22. Learner feedback	3.30	0.11
23. Tests related to objectives	0.005	-1.94
24. Environment(s) selected based on objectives	3.88	0.66
25. Staff/management controls	0.96	-1.48
26. Train instructors	6.49	3.67

NOTE:

(1) z values equal to or greater than + or -1.96 indicate significant differences at the .05 level or beyond.

(2) NEGATIVE z values indicate higher means for the EDUCATION SUBGROUP responses.