DOCUMENT RESUME

ED 090 919 32 IR 000 528

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TITLE Diffusion Strategy Guide.
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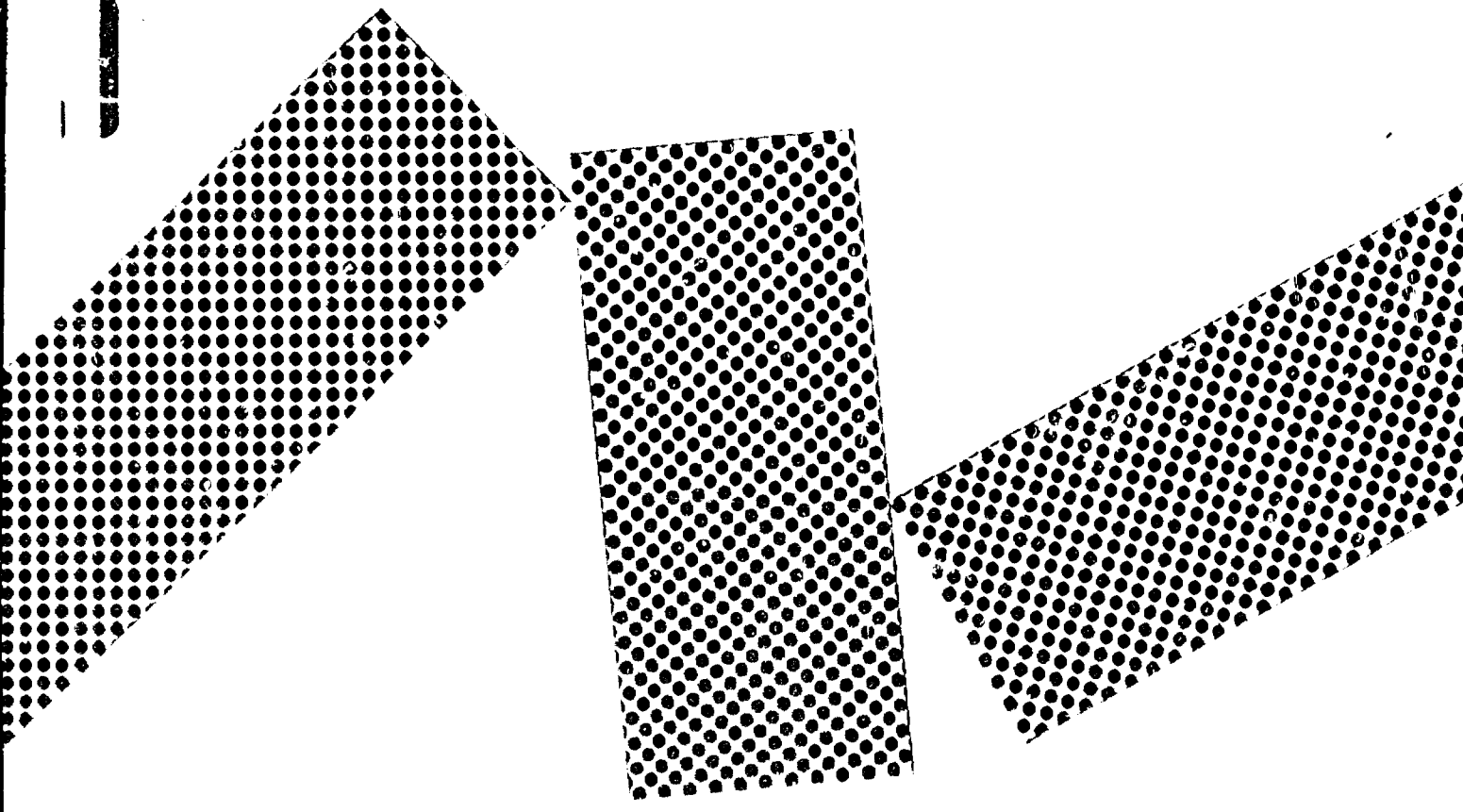
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Nov 73
CONTRACT OEC-3-7062909-3070
NOTE 106p.; Paper presented at the Annual Meeting of the American Educational Research Association (59th, Chicago, Illinois, April 1974)

EDRS PRICE MF-$0.75 HC-$5.40 PLUS POSTAGE
DESCRIPTORS *Adoption (Ideas); *Diffusion; Educational Development; *Educational Innovation; Guides; Information Dissemination; Innovation; Marketing; *Methodology

ABSTRACT

A methodology is presented for planning and managing the spread of educational innovations. The first portion of the guide develops a theoretical framework for diffusion which summarizes and capitalizes on the latest marketing and on the latest marketing and diffusion research findings. Major stages in the diffusion paradigm discussed include educational development, program output, the selection of diffusion strategies and tactics, and consumer adoption. Part II of the guide deals with the implementation of the methodology, dealing in turn with the statement of dissemination objectives, the definition of the target audience, the identification of communication channels, and the matching of priorities to costs. Also considered are evaluation tactics, ways of generating a diffusion strategy decision-making process, and the evaluation and revision of diffusion strategies. (Author/PB)

Diffusion Strategy Guide



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ACKNOWLEDGEMENTS

The authors wish to acknowledge the contributions of the following persons: Roy W. Alford, Jr., Acting Director of Marketable Preschool Education Program, Appalachia Educational Laboratory; John Barnette, Diffusion Specialist, AEL; Charles L. Bertram, Director of Research and Evaluation, AEL; Virgil Blanke, Professor of Educational Development, The Ohio State University; Raymond Brack, Chief of the Media Center, AEL; James Buffer, Professor of Industrial Technology, OSU; William Hanning, Doctoral Candidate, Educational Development Faculty, OSU; DeLayne Hudspeth, Professor of Educational Development and of Pharmacy, OSU; William Hull, Director of Diffusion Research Program, The Center for Vocational and Technical Education, OSU; Barbara Janko, Instructional Development Specialist, OSU; Ralph Kester, Research Associate, Diffusion Research Program, The Center for Vocational and Technical Education, OSU; N. L. McCaslin, Evaluator, Evaluation Unit, The Center for Vocational and Technical Education, OSU; Earl Russel, Research and Development Specialist, Instructional Systems Design Program, The Center for Vocational and Technical Education, OSU; Wayne Schroeder, Assistant Director, Product Utilization Section, The Center for Vocational and Technical Education, OSU; Joe E. Shively, Evaluator, AEL; Linda Thornton, Diffusion Specialist, AEL; Rob Roy Walters, Director of Product Diffusion, AEL; John Walton, Doctoral Candidate, Marketing Faculty, OSU; Ron Welty, Diffusion Specialist, AEL; David Winefordner, Director of Career Decision-Making Program, AEL; Carolyn Lewis, typist, AEL; Sue Meeks, typist, AEL; Mary Parker, typist, AEL; Jody Thaxton, typist, AEL; and Edward Morris, editor, AEL.

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ABSTRACT

The *Diffusion Strategy Guide* presents a methodology for planning and managing the spread of educational innovations. This methodology is spun out of a theoretical framework which capsulizes and capitalizes on the latest marketing and diffusion research findings. The framework constitutes the first half of the Guide. How to implement the methodology is the subject of the second half.

The Guide is written for professionals working in the area of educational marketing, generally, and for diffusers of educational R & D products, specifically.

Imprisoned Improvements

In the last two decades over $500,000,000 has been spent on educational research and development (R & D).* The outputs of R & D have been new knowledge, marketable processes, and marketable products aimed at improving public education. However, as Hood (1973), Eidell and Kitchel (1968), Rankin and Blanke (1968), Lippitt (1965), and so many others have pointed out, schools are not buying these outputs. It is clear that if school curriculum and practice are to be improved and if educational R & D is to continue as a legitimate enterprise, some quick-step diffusion of R & D outputs must be initiated.

Such initiation is easier to talk about than to cause. Clark (1965), for example, warns. . .

> *To some educators, albeit a decreasing number, the systematic discussion of strategies and dynamics for effecting planned change in schools is an uncomfortable notion. The very concept smacks of external control of the educational enterprise by a group of self-styled experts who will enlighten the uninitiated. The very language of those who have studied the change process reinforces this feeling as they discuss change agents, change mechanisms, and worst of all, target systems.*

Nevertheless, it is time to begin--threatening vocabulary and all--to assert the problem.

Why Improvements Stay Locked In

Although the last two decades have seen the production of many R & D program outputs intended to improve our nation's educational institutions, relatively few of these outputs have been successfully diffused (Silberman, 1970; Goodlad, Klein and Associates, 1970). Six of the more apparent reasons for this failure are:

The poor quality of some R & D outputs.

An inadequate educational diffusion knowledge base.

Inadequate funds for diffusion research.

Educational R & D's benevolent inattention to designing strategies for marketing and diffusing its outputs.

The exclusion of diffusion strategy design as a specific part of the development process (Brickell, 1961; Havelock, 1969; Hutchins, 1972).

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*Extrapolated from H. D. Gideonse, Educational Research and Development in the United States, 1969.

The prevailing hand-it-on diffusion policy of the Office of Education (Baldridge and Johnson, 1972; Havelock, 1973).

A less apparent but no less cogent reason is tha diffusion and marketing activities have been viewed by many R & D professionals as a prostitution of their work and by some educators as manipulatory and therefore, inappropriate (Horvat, 1968; Guba, 1968).

The failure is magnified and complicated by, on the one hand, a shortage of federal dollars for implementation activities and, on the other, an insistence that R & D agencies demonstrate the impact their program outputs are having on school children (Baldridge and Johnson, 1972). Thus the problem is of sufficient scope, complexity, and immediacy to merit professional attention. This paper presents a conceptual framework within which to view the problem and suggests a tenative solution.

What Needs to be Done

It is the intent of this paper to extract from the literature and from the experiences of laboratory and center personnel a paradigm--or pattern--to:

Describe how diffusers can devise strategies to systematically sell, install, and institutionalize educational R & D products.

Furnish a guide for future marketing or diffusion efforts at the Appalachia Educational Laboratory and elsewhere.

Provide a conceptual framework for systematically studying diffusion variables.

Describe an R & D management system which facilitates the diffusion of R & D outputs.

Assuming These Things Are So. . .

The diffusion paradigm to be presented here is built on the following assumptions:

Educational R & D agencies are successful to the extent that their program outputs are adopted by educational institutions (Rankin and Blanke, 1968).

Successful diffusion is directly related to the early involvement of diffusers in the development process (Rosenau, Hutchins, and Hemphill, 1973).

R & D outputs which have a pre-determined diffusion strategy tend to diffuse more widely and more quickly than those products which have a *post hoc* diffusion strategy (Crawford, 1972).

Diffusion, like research, development, and evaluation, is a special function requiring trained and/or experienced professionals (Jwaideh and Knowlton, 1971; Clark and Guba, 1965).

Each program output requires its own diffusion strategy; that is, there is no one diffusion strategy appropriate for all R & D program outputs (Horvat, 1968).

The research and development process is not necessarily a linear process (Baldridge and Johnson, 1972).

Elements of the Diffusion Paradigm

The paradigm presents the four elements with which diffusers in an R & D setting need to be concerned: *educational development, program output, diffusion tactics-strategy selection,* and *consumer adoption.*

Throughout the development of program output, diffusers are selecting, implementing, and evaluating tactics intended to produce informed consumers, *i.e.*, consumers who understand the program output. At the same time, diffusers are soliciting from consumers and providing to the developers feedback intended to enhance the diffusability of the program output. In this liaison role, diffusers use and evaluate a variety of diffusion tactics. On the basis of this experience, diffusers synthesize a strategy for the dissemination and implementation of the program output.

The paradigm is brought more sharply into focus as each of its elements is operationalized.

Educational Development: The First Element

"Educational development" is that system of functions necessary to carry out the mission of an R & D agency.* Thus, "educational development," as used here, includes both the creation and diffusion of R & D program outputs.

Ideally, program teams at R & D agencies include diffusion and research-evaluation specialists in addition to developers. Each team applies the scientific method to the production of outputs associated with the mission of the agency.

Figure 1 indicates, by stage and phase, the relative contribution of

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*A typical mission statement might read as follows: "To increase access to educational opportunities and to improve the efficiency quotient of education in the Appalachian Region. It carries out its mission by employing a process of educational development and product diffusion designed to develop and implement (1) educational management structures, and (2) instructional services dependent upon extensive use of technology, media, and mobile facilities for design and delivery." (Basic Program Plan, Early Childhood Education, Appalachia Educational Laboratory, April, 1972).

project team members.

As can be seen in Figure 1, diffusers are most involved during Stage 7, least involved during Stage 4, and about equally involved during the other stages of educational development with others on the program team.

The stages of educational development are put into operation like this:

Needs Assessment and Preliminary Market Analysis

The Needs Assessment and Preliminary Market Analysis Stage consists of:

(1) Collecting and analyzing regional educational, demographic, and marketing data.

(2) Assessing consumer and professional perceptions of regional educational needs.

(3) Ranking educational needs based on significance, agency's goals and resources, and probability of the agency's successfully marketing these solutions.

(4) Documenting characteristics (cost, complexity, relative advantage, etc.) of available solutions and solutions under development by other R & D agencies.

(5) Estimating relative market strength of competing solutions.

(6) Analyzing past adoption behavior of consumers.

(7) Determining, on the basis of the six previous inputs, whether or not to proceed to Stage 2.

Feasibility Analysis of Program Alternatives

The Feasibility Analysis of Program Alternatives Stage consists of:

(1) Selecting a specific regional need, problem, or opportunity for further study.

(2) Determining general outcomes (goals) to be achieved by program outputs.

(3) Generating alternative solutions.

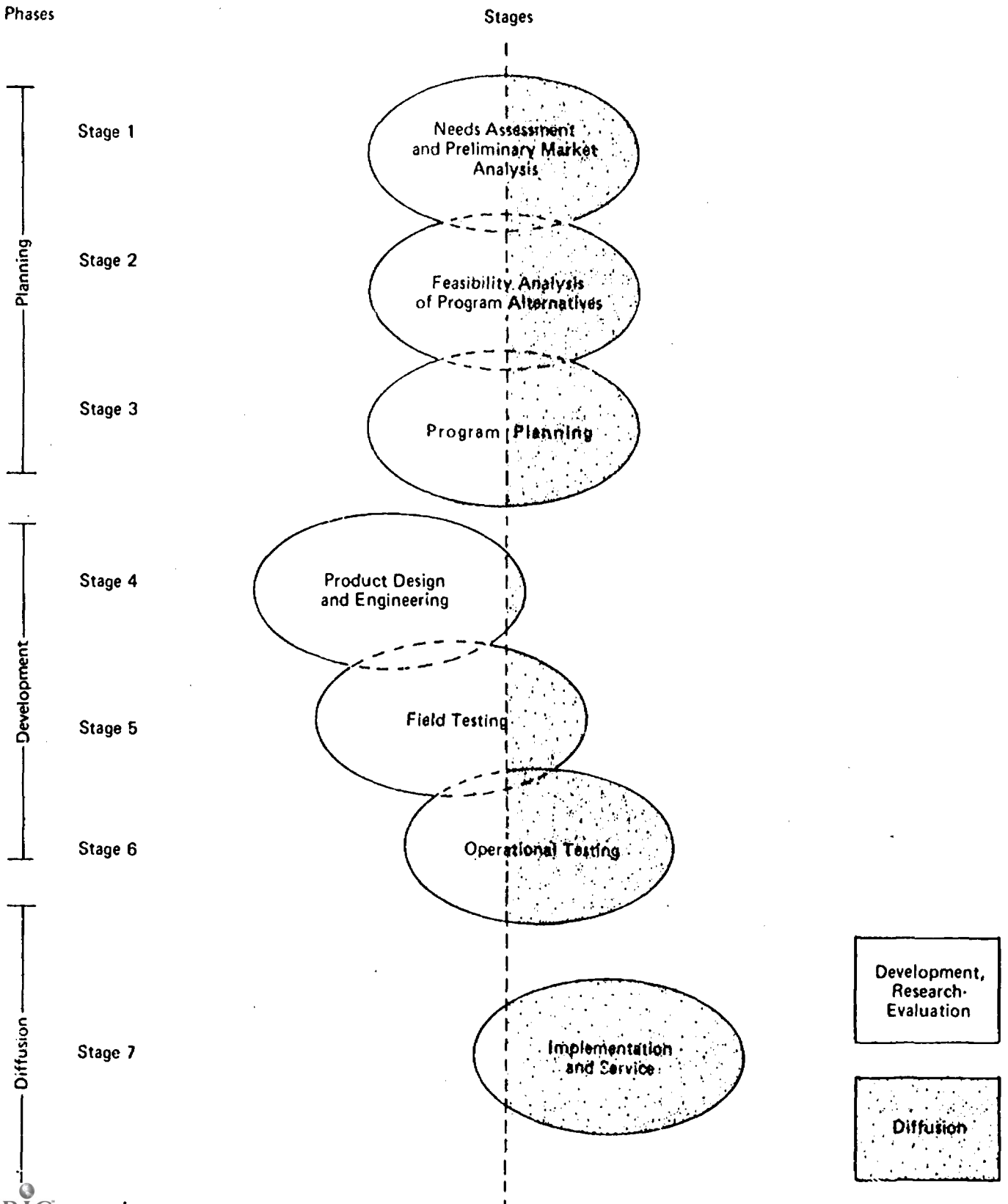
(4) Assessing internal and external resources available to mount the development effort.

(5) Comparing program goals with R & D agency's goals.

(6) Comparing extant knowledge and technology with porgram goals.

Figure 1

A Model for Educational Development



(7) Prioritizing relevant solutions.

(8) Estimating market size based on a comparison of Stage I data with program goals.

(9) Selecting a solution for development.

(10) Determining, on the basis of the nine previous inputs, whether or not to proceed to Stage 3.

Program Planning

The program Planning Stage consists of:

(1) Preparing a work plan for the program team, with reference to a request-for-proposal (RFP), experience, and reports from other R & D agencies.

(2) Validating program objectives with consumers, the agency's board of directors, and/or advisory panels.

(3) Submitting proposal to appropriate funding agencies.

(4) Negotiating proposal revisions with interested funding agencies.

(5) Securing funding.

(6) Preparing a basic program plan and a resource allocation management plan.

(7) Determining, after satisfactorily completing activities 1-6, to proceed to Stage 4.

These first three stages constitute the Planning Phase of educational development. The operationalization of these stages differs from that of traditional development models in three ways:

(1) Diffusers are included as charter members of the program development team, underscoring the educational R & D agency's responsibility for generating marketable products and processes that favorably affect schools.

(2) Market data is deliberately gathered and used to provide information for planning decisions, underscoring the educational R & D agency's responsibility to consider consumer economics as well as consumer needs.

(3) Feedback from consumers is conscientiously solicited throughout each stage to (a) confirm or deny selected decisions made by the program team, (b) maintain the consumer as the focus of all program team planning,

and (c) produce informed consumers.* Whether this feedback is formally or informally obtained, diffusers are responsible for providing it to the program team.

Design and Engineering

The Design and Engineering Stage consists of:

(1) Preparing product specifications and product design.

(2) Collecting and analyzing consumer feedback *re* product specifications and design.

(3) Organizing and soliciting feedback from internal review panels, advisory boards, associated agencies, consortia, commercial publishers, etc.

(4) Preparing an evaluation design and instrumentation.

(5) Constructing and testing a prototype or prototype elements in a limited or simulated consumer setting.

(6) Redesigning and reconstructing the complete prototype.

(7) Preparing training and installation materials.

(8) Identifying potential field test sites.

(9) Determining, after satisfactorily completing activities 1-8, to proceed to Stage 5.

Field Testing

The Field Testing Stage consists of:

(1) Selecting and negotiating formal agreements with field test sites.

(2) Preparing an evaluation design and instrumentation.

(3) Training installation teams.

(4) Installing the process of product at the field test sites.

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*Corwin (1972) asserts that involving consumers for involvement's sake is negatively related to adoption; involving consumers for the explicit purpose of sharpening the developer's perception of consumer needs is positively related to adoption.

(5) Collecting, analyzing, and reporting evaluation data from the sites.

(6) Reviewing the field test report with internal review panels, advisory boards, associated agencies, consortia, commercial publishers, etc.

(7) Revising the program output on the basis of the two preceding activities.

(8) Identifying potential operational test sites.

(9) Synthesizing Stage 5 activities into messages for dissemination to consumers.

(10) Determining, after satisfactorily completing activities 1-9, to proceed to Stage 6.

Operational Testing

The Operational Testing Stage consists of:

(1) Selecting and negotiating formal agreements with operational test sites.

(2) Arranging for external summative evaluations at the sites.

(3) Installing the process or product at the sites.

(4) Reviewing the summative evaluation report with internal review panels, advisory boards, associated agencies, consortia, commercial publishers, etc. and with consumer groups.

(5) Revising and recycling the process or product as indicated by the evaluation report and reviewers.

(6) Preparing diffusion strategy and objectives.

(7) Completing arrangements for publishing, distributing, and promoting the final program output.

(8) Determining, after satisfactorily completing activities 1-7, to proceed to Stage 7.

Stages 4, 5, and 6 constitute the Development Phase of the first element of the diffusion paradigm. The operationalization of these stages differs from that of traditional development models in three ways:

(1) As in the planning Phase, feedback from consumers, opinion leaders, and key decision makers is conscientiously s licited throughout each stage.

(2) Dissemination activities are increased during the Development Phase, underscoring the responsibility of the educational R & D agency to continually communicate with the consumers, to attend to their needs, and to work within their constraints.

(3) Field testing and operational testing sites are selected not only as representative consumer settings for evaluating program output, but also for their potential as credible, conveniently located demonstration sites.* The addition of this criterion for test sites underscores the R & D agency's responsibility to focus on the diffusion of its program outputs.

Implementation and Service

The Implementation and Service Stage consists of:

(1) Generating criteria and design for evaluation of the R & D agency's diffusion strategy.

(2) Preparing program output for production.

(3) Implementing diffusion strategy.

(4) Monitoring product utilization.

(5) Conducting impact evaluation studies.

Stage 7 constitutes the Diffusion Phase of educational development. The operationalization of this stage differs from that of traditional development models in the emphasis it places on coordination between developers, research-evaluators, and diffusers working together to diffuse the program output. This coordination is an index of the program team's commitment to see their output properly used by as great a percentage of the market as possible.

Table I presents in detail the specific tasks performed by developers, research-evaluators, and diffusers working together in educational development.

As presented in Table I, the tasks of program teams are directed toward diffusing program outputs. Developers' and research-evaluators' tasks are no fewer and no less important than in traditional models of devel-

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*The Industrial Arts Curriculum Project (IACP) at The Ohio State University found this economical use of test sites as later demonstrations centers to be a critical factor in the diffusion of their junior high school curriculum which thus far has captured 40 percent of their potential national market. (From interview with Dr. James Buffer, IACP Diffusion Director, 1973)

opment. But there is clearly an emphasis on cultivating informed consumers and placing reliable products or processes in their hands as quickly as possible.

Program Output: The Second Element

The next element of the diffusion paradigm is program output, that is, the marketable product, process, solution-set, or innovation which fulfills the specifications and objectives generated by the program development team. Diffusion literature refers to this output as the *innovation*. *Program output* has a narrower connotation than does *innovation* in that the former results from a rigorous development and testing process; the latter may or may not have undergone such rigorous validation and evaluation.

Program output may take two basic forms: *process (e.g.*, modular scheduling, PPBS, or teacher-evaluation) and *product (e.g.*, a textbook, a set of slides, or a 30-minute film).

A process is produced in such a form that consumers generally adapt it to their specific needs. Usually, the consumer is an organization which employs trainers or consultants to install it.

A product is produced in such a form that the consumer generally installs the product, as is, with little or no adaptation. The consumer may be either an organization or an individual. A product either includes instructions for installation or is self-installable.

The form of the program output is one condition (variable) which diffusers and consumers can influence during planning and development to assure the diffusability and utility of the output.

In addition to form, other characteristics of an output influence greatly the rate at which that output is adopted by the targeted consumer. During the planning and development stage, diffusers attempt to influence output specifications so as to maximize diffusability. That is, they encourage the developers to build into their output characteristics which make it more easily adopted by the intended consumer.

Rogers and Shoemaker identified (1971) five principal attributes of innovations which determine the ease with which innovations are adopted. These attributes are: relative advantage, compatibility, complexity, trialability, and observability. All five are important considerations for program development teams. A brief description of these attributes, with definitions quoted from Rogers and Shoemaker, follows.

Relative Advantage

"Relative advantage refers to the degree to which an innovation is perceived as being better than the idea it supersedes." A number of subdimensions of relative advantage have been identified: low initial cost, lower perceived risk, a decrease in discomfort, a savings in time and effort, and the immediacy of reward. Wall expressed (1972) relative advantage in terms such as "prestige," "economics," or "convenience" to the client or school system.

Table 1

Educational Development Task Responsibilities

Stage 1: Needs Assessment and Preliminary Market Analysis

Developers	Research-Evaluators	Diffusers
Identify goals and objectives of the study	*Identify goals and objectives of the study	Identify goals and objectives of the study
Identify instrument content	*Identify instrument content	Identify instrument content
	Develop instrument	
	Validate instrument	Arrange with consumers for validation
	*Identify sample	Assist in identification of sample
	*Administer instrument	Advise/assist in instrument administration
	Collect data	
Review aggregated data	*Aggregate data	Review aggregated data
Assist in writing report	*Write report	Assist in writing report
Rank priority of needs	Rank priority of needs	*Rank priority of needs
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of consumer contacts

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 1: (Cont'd)

Developers	Research-Evaluators	Diffusers
		Establish method for validating needs
		Validate priority ranking of needs with consumers

Table 1 (Cont'd)

Stage 2: Feasibility Analysis of Program Alternatives

Developers	Research-Evaluators	Diffusers
Assess research base		
Assess technology base		Assess market parameters
*Specify solution goals	Explicate criteria	Specify solution goals
*Generate alternatives		Generate alternatives
Assess limiting copyrights/ patents		Assess competitive alternatives
Determine cost of alternatives (personnel, technology, and consequences)		Compare cost alternatives market parameters (personnel, technology, and consequences)
*Evaluate alternatives	Evaluate alternatives	Evaluate alternatives
Select alternative		Validate selected alternative with consumers
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of consumer contacts

*Indicates major responsibility in shared tasks.

Table I (Cont'd)

Stage 3: Program Planning

Developers	Research-Evaluators	Diffusers
Write scope of work for development	Write scope of work for evaluation	Write scope of work for diffusion
*Delineate program objectives	Assist in delineating program objectives	Validate objectives with consumers
Specify appropriate presentation mode		
Identify development resources needed	Develop evaluation plan	
*Estimate time required for development and scheduling activities	Assist in estimating time required for development and scheduling activities	Assist in estimating time required for development and scheduling activities
*Develop multiyear program plan (BPP)**	Assist in developing multiyear program plan (BPP)**	Assist in developing multiyear program plan (BPP)
*Develop program budget (RAMP)**	Develop program budget (RAMP)**	Develop program budget (RAMP)**
*Synthesize BPP and RAMP**	Assist in synthesizing BPP and RAMP**	Assist in synthesizing BPP and RAMP**

*Indicates major responsibility in shared tasks.

**BPP and RAMP are the *Basic Program Plan* and the *Resource Allocation Management Plan* required of most program development teams.

Table 1 (Cont'd)

Stage 3: (Cont'd)

Developers	Research-Evaluators	Diffusers
*Review plans with funding source(s)	Review plans with funding source(s)	Review plans with funding source(s)
*Revise plans based upon negotiations with funding source(s)	Revise plans based upon negotiations with funding source(s)	Revise plans based upon negotiations with funding source(s)
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of diffusion activities

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 4: Product Design and Engineering

Developers	Research-Evaluators	Diffusers
Describe utilization setting		Validate description of utilization setting
Identify key concepts to be conveyed by the product		
*Define performance objectives in relation to program goals	Assist in definition of performance objectives	
	Design system for validating performance objectives with small sample of consumers	Assist in designing system for validating performance objectives with small sample of consumers
		Validate performance objectives
Identify scope and sequence of concept presentation		
*Match performance objectives with appropriate concepts	Assist in matching performance objectives with appropriate concepts	
Design prototype		
Construct prototype		

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 4: (Cont'd)

Developers	Research-Evaluators	Diffusers
	Establish program evaluation advisory committee	
		Secure developmental copyright
	Review evaluation plan with advisory committee	
		Validate specifications with identified market
Test elements of prototype		
Conduct tutorial test of prototype	Secure outside evaluation of prototype (professional peers)	Validate prototype program output with consumers
Present development plans at publisher's briefing		*Initiate contact with commercial publishers, if appropriate
Revise prototype program output and prepare for field test		
*Prepare training and installation materials	Identify criteria for training and installation materials	Assist in preparation of training and installation materials
Identify criteria for selecting field test sites	*Identify criteria for selecting field test sites	Identify criteria for selecting field test sites

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 4: (Cont'd)

Developers	Research-Evaluators	Diffusers
Assist in identification of potential field test sites	Assist in identification of potential field test sites	*Identify potential field test sites
	Develop evaluation design for field test	
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of diffusion activities

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 5: Field Testing

Developers	Research-Evaluators	Diffusers
Train installation teams		
		Contact field test sites
		Negotiate formal agreements with field test sites
	Develop instruments for field test	Assist in developing instruments for field test
	Review evaluation plan and procedures with evaluation advisory committee	
*Install product at field test sites		Install product at field test sites
		Train users at field test sites
	Train administrators of instruments	
	Assist in test administration	*Arrange for test administration
		Maintain field test agreements between the sites and the R & D agency
	Collect data	
	Analyze data	
		Establish linkages with various consumers

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 5: (Cont'd)

Developers	Research-Evaluators	Diffusers
	Write field test report	
Revise program output or recycle to design and engineering, if necessary		Validate revised program output with consumers
		Maintain contact with commercial publishers
Assist in drafting RFP's for commercial production		*Draft RFP's for commercial production
*Select publisher	Assist in selecting publisher	Assist in selecting publisher
Negotiate contract with selected publisher		*Negotiate contract with selected publisher
		Arrange visits for interested potential consumers
	Review field test report with advisory committee	
Prepare for operational test		Identify operational test sites and demonstration sites

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 5: (cont'd)

Developers	Research-Evaluators	Diffusers
	*Develop criteria for operational test	Assist in developing instruments for operational testing
	Develop summative evaluation design	
	Develop instruments for operational test	
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of diffusion activities

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 6: Operational Testing

Developers	Research-Evaluators	Diffusers
		Contact operational test sites and demonstration sites
		Negotiate formal agreements with operational test sites and demonstration sites
	Revise evaluation plan and procedures with advisory committee	
		Install product at operational test sites and demonstration sites
	Arrange for administration of instruments	
		Train practitioners at operational test and demonstration sites to use and evaluate the program output
		Prepare written description of diffusion strategy
		Submit written diffusion strategy to program team
		Create full scale product information brochures
		Secure endorsement of influential persons and organizations

Table 1 (Cont'd)

Stage 6: (Cont'd)

Developers	Research-Evaluators	Diffusers
*Review diffusion strategy design	Review diffusion strategy design	
	Delineate diffusion strategy evaluation criteria	
		Contact for commercial production distribution, and marketing of appropriate products
	Collect data	Maintain operational test agreements between the sites and the R & D agency
	Analyze data	
Assist in writing summative evaluation report	*Write summative evaluation report	Assist in writing summative evaluation report
Review summative evaluation report	Review summative evaluation report with advisory committee	Review summative evaluation report
Revise program output, if necessary		
		Validate program output with consumers
Recycle to design and engineering, if necessary		Maintain linkages with various consumer organizations

*Indicates major responsibility in shared tasks.

Table 1 (Cont'd)

Stage 6: (Cont'd)

Developers	Research-Evaluators	Diffusers
		Develop and operate awareness conference for early adopter groups
		Train linking advocates in consortium and universities
		Make personal contact with interested consumers
		Operate demonstrations of program output
		Coordinate visits to demonstration sites
		Train installation teams
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of diffusion activities

Table 1 (Cont'd)

Stage 7: Implementation and Service

Developers	Research-Evaluators	Diffusers
Prepare program output for production		
		Saturate consumers with product information brochures, if appropriate
		Coordinate dissemination efforts with producer-distributor
Monitor adoptions and adaptions of program output		
		Develop and operate awareness conference for late adopters
Make content and consultant presentations as requested		
		Utilize linking advocates in consortium and universities
		Continue personal contact with consumers at trial stage
		Continue to operate demonstrations of program output
		Coordinate visits to demonstration sites
		Coordinate installation teams
		Provide maintenance support
		Provide consultant services

Table 1 (Cont'd)

Stage 7: (Cont'd)

Developers	Research-Evaluators	Diffusers
	Conduct impact evaluation	
Prepare hindsight report		
Maintain log of development activities	Maintain log of evaluation activities	Maintain log of diffusion activities

Compatibility

"Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the (consumer)." A program output which is not compatible with the values of the social system will be slower to diffuse than an output which is compatible. An output may be compatible with: socio-cultural values and beliefs, previously introduced ideas, or consumer needs.

Complexity

"Complexity is the degree to which an innovation is perceived (by members of a social system) as difficult to understand and use."

Triability

"Triability is the degree to which an innovation may be experimented with on a limited basis." Program outputs which can be tried out on an installment basis, in parts, are generally adopted more rapidly than products which are not invisible. An output which can be logically broken down into smaller components tends to be diffused more easily because it presents the consumer with less risk.

Observability

"Observability is the degree to which the results of an innovation are visible to others." The effects of some outputs are readily observable whereas the effects of other outputs are not immediately observable. Generally, the effects of marketable processes are not immediately observable and, hence, processes are more difficult to diffuse than marketable products.

Diffusers, knowing the impact the above characteristics have on the diffusability of program output, interact frequently with the development team to assure the writing of realistic product specifications--specifications in line with the values of the intended consumer. Developing and maintaining linkage between consumer and developer is the most critical role diffusers perform as members of the program team. Failure in this role can result in unsalable program outputs, untreated consumer needs, and/or loss of credibility with funding agencies.

Diffusion Tactics-Strategy Selection: The Third Element

Throughout the process of educational development, diffusers are informing the consumers. The means chosen to inform constitutes a tactic. Since each R & D agency program team generates unique information, and since information-type (along with consumer characteristics and diffuser characteristics) is a crucial variable in the selection of a diffusion tactic, each dissemination activity requires a separate selection-decision. Each decision, made by the diffusers after a logical analysis of the aforementioned variables, is a hypothesis which was tested preparatory to strategy selection. The strategy, then, is a combination of empirically tested tactics which demonstrably facilitates consumer adoption. This selection occurs toward the end of the operational testing stage of ed-

ucational development and is implemented at the outset of the implementation and service stage. The tactics are the communication devices used by the diffusers to communicate relevant output from educational development stages (needs assessment, feasibility analysis, etc.) to the consumer.

For diffusers to be accountable, it is necessary for them to establish, with assistance from the research-evaluator, performance objectives describing the intended behavioral effects of their communication (Hudspeth, 1972; Kirkpatrick, 1972). These effects are the criteria by which they evaluate the appropriateness of their selected tactic.* Diffusers are careful to document the outcome of each implemented tactic and use this documentation to build an empirically sound diffusion strategy.

For the immediate future, diffusion tactics may be selected from the following array, which is an adaptation of Ronald Havelock's work (1969).

One-Way Communication Tactics

Written media (news releases, comics/cartoons, direct mail, brochures, etc.

Oral presentations to live audiences (lectures, speeches, symposia, etc.)

Television (spots, news coverage, documentaries, testimonials)

Films (promotional, testimonial, demonstration, etc.)

Radio and recordings (promotional, testimonial, demonstration, etc.)

Live demonstrations (field sites, fly-ins, traveling institutes, etc.)

Information systems (ERIC, AIM-ARM, CEDaR, TAP, etc.)

One-way tactics are appropriate for promoting problem perception, awareness and interest among large numbers of consumers who are not likely to resist the message being communicated. These tactics are sometimes

*The writers, in conjunction with the Diffusion Research Unit of The Ohio State University Center for Vocational and Technical Education, are in the process of validating a taxonomy of diffusion tactics. This validation will result in an exhaustive list of categorized tactics and profiles of the educational consumer's response to various combinations of tactics. Ultimately, the study would yield some generalizations. These generalizations would allow limited predictions as to what tactics effectively communicate what messages to what consumers. However, this joint effort is just being mounted and final outcomes are not expected for several years.

used in combination to "saturate" the consumers with the intended message to increase the probability of its reaching their attention.

Although these tactics do not provide a formal mechanism for receivers (consumers) to respond to the senders (diffusers), the tactics still require evaluative feedback. That is, the congruence between their intended impact and their actual impact needs to be assessed by the research-evaluator. This assessment establishes the empirical basis for the selection of a diffusion strategy. If the discrepancy between intended impact is such that the communication objective is not obtained, that finding is logged by the diffusers and a second tactic implemented.

Two-Way Communication Tactics

Dyadic exchange (telephone calls, personal visits, personal letters, etc.)

Small groups (interactive training sessions, advisory committees, conference calls, seminars, etc.)

Large groups (professional meetings, consortia, delphi technique, workshops, etc.)

Two-way tactics generally are most effective in promoting consumer comprehension, evaluation, legitimization, trail, adoption, installation, and institutionalization leading to advocacy. These tactics are more complicated and costly than are one-way tactics, but two-way tactics are necessary to assure the accomplishment of certain diffusion objectives--especially when dealing with a resisting consumer (Arensberg and Nieholf, 1971). Many two-way tactics are most appropriately used in the consumers' home setting. Positive changes brought about in resisting consumers while they are on the diffusers' home ground are often discontinued when the consumers return home. The combination of participants, personality of the diffusers, and documentation needs are other critical variables to be considered in the planning of a two-way tactic.

The listing of one-way and two-way diffusion tactics is just one method of explicating the array of tactics available to diffusers. Obviously this is a listing of general tactics. Specific tactics are appropriate only when diffusers are considering a performance objective associated with consumer-oriented information about a particular product. The DIFFUSERS column in Table 1, excluding the Implementation and Service Stage, lists many kinds of activities which, in the context of a specific program development, would require specific selection of diffusion tactics.

Consider the following examples of tactic selection which are idealized scenarios drawn from the writers' current work.

Example 1: The Marketable Preschool Education Program (MPEP) has just completed casting and taping two prototype TV programs which will eventually become part of a series such as *Sesame Street*, except specifically targeted for rural Appalachian homes. The diffusers have taken many black and white photos of the taping sessions and want to use them

to achieve the following objectives:

1. Rural parents will report their awareness of MPEP by responding positively to the following telephone interview query: "Have you heard about the new television show that is being produced for 3-5 year old Appalachian children?"

2. Rural parents will indicate their interest in MPEP by voluntarily asking at least one question about the television show during a telephone interview.

The diffusers, who were assisted by research-evaluators in delineating those objectives, decide to test out three one-way tactics that seem appropriate for this diffusion task: (1) In Kanawha County, West Virginia, they arrange for a picture story in the local newspaper. (2) In Jackson County, West Virginia, they use mimeographed flyers, distributed after Sunday services at the rural churches. (3) In other Appalachian counties they direct-mail to all rural residents a newsletter called REEGNU, with a black and white picture story of the taping sessions. The diffusers intent is not only to accomplish their two objectives but also to collect data on the comparative effectiveness of the three one-way tactics. This data will be an input to the information-base diffusers will need to synthesize a diffusion strategy.

Example 2: The Marketable Preschool Education Program (MPEP) has just completed casting and taping two prototype TV programs which will eventually become part of a series, such as *Sesame Street*, except specifically targeted for rural Appalachian homes. The diffusers want to be able to identify potential field test sites and need the cooperation of an organization called the Consortium of State Departments of Education in the Appalachian Region to do so. Thus, they generate the following objectives:

1. Those members of the Consortium of State Departments of Education in the Appalachian Region who have *not* volunteered their Local Education Agencies (LEA's) to be selected as field test sites for MPEP will attend a pre-screening of the two new prototype tapes.

The diffusers, recognizing that they are dealing with two different consumer groups--(1) identifiable resistors, and (2) key decision-makers whose negative vote could prevent rural residents in their states from adopting MPEP--select two, two-way diffusion tactics. They will have the Consortium President call the resistors personally and invite them to an MPEP fly-in workshop in Washington. Next, the diffusers will

contact personally all other members of the Consortium and invite them to a dinner-screening of the prototype tapes. The diffusers use these time-consuming and expensive strategies because they understand that one-way tactics are very unreliable ways of motivating busy school executives. Once again diffusers work with the research-evaluators to develop an evaluation design assessing what kinds of attitude shifts occur as a result of the workshop and the prescreening. Of course, the diffusers keep an attendance record at both events to assess attainment of the objectives and to assess the utility of incorporating these tactics into the agency's diffusion strategy.

The preceding are examples of how diffusers select, employ, and test tactics preparatory to determining a diffusion strategy. The strategy must be determined by the end of a program output's operational testing stage to be ready for use when the developers release the final program output. The strategy should include completed arrangements for the production, promotion, and distribution of the final program output.*

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*In the finalizing of these arrangements, the diffusers must secure expertise in the field of copyright laws and USOE/NIE/HEW Copyright Policy Guidelines and an understanding of the operations of the commercial publishing industry. Alternative mechanisms for distribution include the following:

(1) Placing the program output in the public domain. This procedure makes the output, usually developed through the use of public money, immediately available to the public without restrictions and without paying for its use.

(2) Having the output distributed through the U. S. Superintendent of Documents. Upon publication, outputs distributed by this means are automatically placed in the public domain. This procedure merits consideration as a means of making available "thin market" products which are not profitable ventures for commercial publishers.

(3) Diffusing the output through commercial publishers under copyright. Such arrangements normally involve three parties, the developer, the program funding agency, and the commercial publisher. In some cases, the commercial publisher may have participated in and partly financed the development effort.

The decision as to which of the foregoing mechanisms should be employed in diffusing a particular program output can only be made in light of the nature of the output and the intent of the developer.

The commercial publishing industry offers to the program team an "in place" mechanism capable of assisting in the development, financing,

Marketable processes, because of their complex nature, are usually marketed by the R & D agency--although publication of supporting materials may be sub-contracted to commercial agencies. Marketable processes are usually distributed by installation teams and consultants from the R & D agency to assure the process performs according to its objectives. Marketable products, on the other hand, are often completely sub-contracted to commercial publishers.

Before the program team decides to use a commercial publisher, the diffusers should have secured, prior to field testing, a developmental copyright on the prototype materials from the funding agency. This copyright safeguards both the developers and the funding source until such time as the program output is finalized. The diffusers should also have sought advice from various publishers during development (cf. Table I).

If the decision is made to publish the final program output commercially, the funding source is informed. If the funding agency does not provide its own sub-contracting guidelines, the diffusers first issue an RFP to a selected list of educational publishers. This list, secured from the Association of American Publishers, Incorporated, should include all publishers possessing the necessary corporate qualifications to produce, promote, and distribute the program output.

Next, the diffusers arrange a publishers' briefing at the R & D agency to answer questions, clarify specifications, and review development plans. Since this conference is held prior to the completion of operational testing, sets of prototype materials are displayed for publishers' inspection.

Following receipt of proposals, the development team selects the publisher that best meets the criteria set forth in the RFP (Hein, 1971). Other publishers who responded to the RFP are notified of the team's decision. The diffusers then initiate negotiations with the selected publisher for expertise in editing, layout, design, and other aspects of production. Additionally, the diffusers arrange for joint planning of promotional, training, and service activities with the publisher's marketing staff (Buffer, 1971; Association of American Publishers, Incorporated, 1972).

As an output of this planning, a contract between the R & D agency and the publisher is drafted for study. When the contract is judged satisfactory, it is signed by both parties and by the funding agency.

Consumer Adoption: The Fourth Element

The consumer element of the diffusion pattern is external to the agency

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production, distribution, and servicing of appropriate outputs. Recent liberalization of government policies and guidelines relative to contracting with commercial publishers for the diffusion of outputs developed under government grants has done much to encourage utilization of this "in place" mechanism.

and is the most important component of that external environment with which the R & D agency must deal. From the needs assessment and preliminary market analysis to the implementation and service stage, the end objective of the development team is to identify, develop, and diffuse solutions to educational problems of the R & D agency's consumer.

The consumer adoption element may be viewed as a series of snapshots depicting the consumer's informational, attitudinal, and behavioral state toward a particular program output. The first snapshot may depict the consumer unaware of the problem, much less of the R & D agency's commitment to solve it. The consumer, in other words, may not perceive the present state of educational practice as presenting a problem or as being something less than ideal.

If the diffusion effort is totally successful, the final snapshot of the series would show a predicted percent of the consumers having adopted and institutionalized the program output which solves the educational problem. Other snapshots in the series would depict the intervening stages of consumer response that usually precede "total adoption" (Roger, 1962, 1971: Robertson, 1971). The diffusion paradigm takes into account eleven consumer response categories: (1) problem perception, (2) awareness, (3) interest, (4) comprehension, (5) attitudes, (6) evaluation, (7) legitimation, (8) trial, (9) adoption, (10) installation, and (11) institutionalization.

These categories are the conceptual basis for this final element of the pattern. They reflect a continuum of responses through which a consumer proceeds as he adopts a product. Research has not established that these stages are discrete nor have reliable measures been devised to assess each response category. (See Kester and Gallagher, 1973, for a listing of available measures of diffusion variables.) Consumer research, outside of education, addresses itself to product-specific studies of the consumer rather than to broader concerns which would provide a sound conceptual base for this element of the paradigm. Thus, the above response categories reflect the present state of the art. They beg research--and it is the writers' hope that diffusers, in implementing this paradigm will contribute to the knowledge base. But for the present, the writers and their colleagues work with the eleven response categories.

Before institutionalization takes place, diffusion efforts may be aimed at such enabling objectives as altering the perceptions of the developers, altering the program output so the specific product is more easily diffused to the consumer, or informing potential consumers. Information about consumer-response allows diffusers to pinpoint specific objectives for their tactics and to tailor messages about the program output to the response-level and understanding-level of the consumers.

Hudspeth says (1972) that diffusers frequently neglect to specify objectives for their communications with consumers. That is, diffusers often fail to define what consumer response (other than a gross "I want to use the product") is to be elicited from the consumer. The diffusion paradigm recognizes that diffusion strategy design must include strategy objectives which indicate what specific behavioral response is expected of the consumer. Once again, it is acknowledged that varying degrees of consumer sophisti-

cation might effect varying categorical responses. That is, a diffusion effort proposed to instill "problem perception" could elicit an "interest" or "awareness" response. Nevertheless, diffusers cannot be accountable for their efforts without objectives to serve as performance standards. The writers and their colleagues are particularly attentive to writing objectives for their messages, knowing that without them there can be no empirical justification for their diffusion strategies.

Figure 2 demonstrates the elements and sub-elements of the paradigm and their interactions.

Getting the Paradigm Accepted

Thus far, this paper has addressed itself to the conceptualization and operationalization of a diffusion paradigm. This exposition has repeatedly emphasized the importance of educational R & D agencies' adopting the stance that since consumer-need is the reason most development efforts are funded, the program team must solicit and use consumer input during each stage of the development process. It has suggested that R & D agencies become more diffusion-oriented--that they be as concerned about consumer feedback as they are about an impending site visit and review by a funding agency. But such suggestions become academic exercises without implementation guidelines (Lawrence and Lorsch, 1969).

Implementation of the diffusion paradigm should be preceded by a thorough study of the adopting organization--its goals and sub-goals, its climate, managerial strategy, communication and influence patterns, success and failure in past internal change efforts (Beckhard, 1969). To attempt implementation without such study is to reject the philosophy on which the paradigm is based. The paradigm is an innovation, a marketable process, and the R & D agency is the consumer. The paradigm can be expected to elicit much resistance from individuals within the agency who see it as a simplistic power grab by diffusers and as an unnecessary constraint for developers. Therefore, the strategy for diffusing this innovation must be carefully conceived and even more carefully implemented.

First Tactic: Show that Funding is Tied to Diffusion

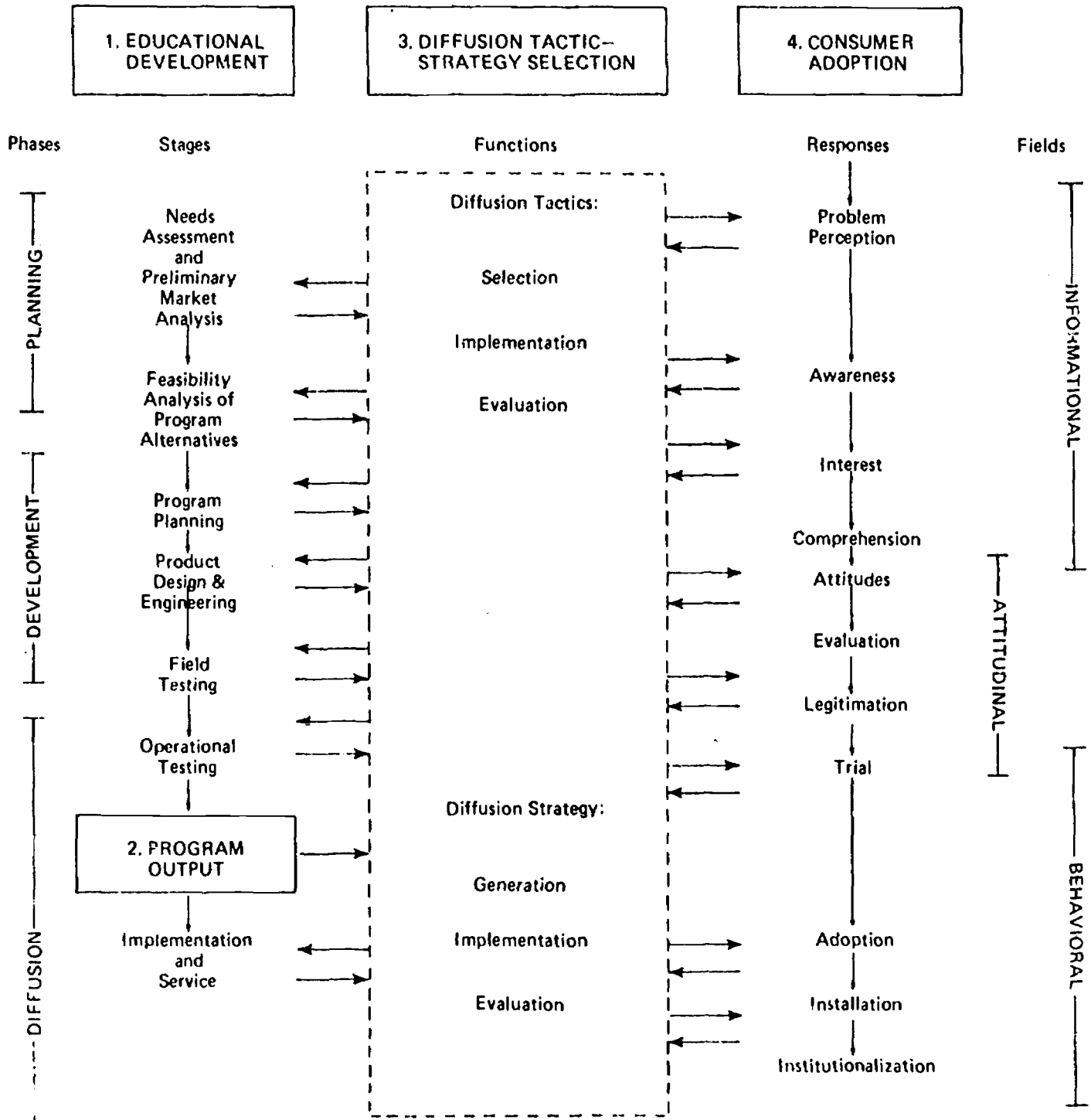
The first tactic of the strategy may be discussion with developers about needed adaptions in the paradigm prior to trial in the agency. Care should be taken to point out the congruence between the values implicit in the paradigm and the values being espoused by many funding sources: that R & D agencies must be able to show that their products are making a difference in educational institutions. Most resistance from developers should diminish as they realize that probable success in diffusion efforts is a major criterion for funding.

Second Tactic: Show Endorsements of Diffusion Principles

The second tactic may be the collection and internal distribution of testimonials from respected external agents and agencies for the paradigm or for the propositions on which it is built.

Figure 2

Diffusion Paradigm



Third Tactic: Show the On-going Usefulness of Diffusion

The third tactic may be personal interaction with the program teams about their educational development problems. Such interaction may establish the value of diffusers as members of the development team and their credibility as professional colleagues. Additionally, it affords an opportunity for diffusers, developers, and research-evaluators to test the validity of the paradigm in a controlled setting and to modify it to complement the team's objectives.

Many more procedures may be used, depending on the initial study of the adopting agency and the documented effects of tactics, such as the three previously mentioned (Margulies and Raia, 1972). After the agency personnel generally comprehend the paradigm and a few have successfully tried parts of it, the diffuser consults the agency's administration about implementing the diffusion paradigm on an experimental basis. The administration's principal concern about implementation would probably be changes in the organizational structure of the agency. The diffusers anticipate that concern by developing an organizational chart such as the example presented in Figure 3.*

It is important that the administration recognize the relationship between the organizational schema represented in Figure 3 and implementation of the paradigm. It needs to be pointed out that diffusers and research-evaluators require a representative voice on the educational development management team to assure that their perspective helps form administrative and policy decisions of the agency (Baldridge and Johnson, 1972).

Further, it needs to be pointed out that unless diffusers and evaluators are accountable to their own directors (as opposed to reporting only to the director of the project to which they are assigned) the probability of their being co-opted to perform developers' tasks is quite high (Sanders, 1973). And if diffusers are co-opted, of course, the paradigm cannot be implemented.

Finally, it needs to be pointed out that relationships similar to those represented in Figure 3 have been tried out on a limited basis with certain program development teams in the agency, and that the agency's administration might want advice from developers who were involved in the try-outs.

The above strategy is hypothetical. It has not been used, as described, in any particular R & D agency. It is presented as an example of how the paradigm might be implemented and what variables might need to be accounted for in building an implementation plan or a diffusion strategy.

There is no empirical evidence that consumers respond either more or less

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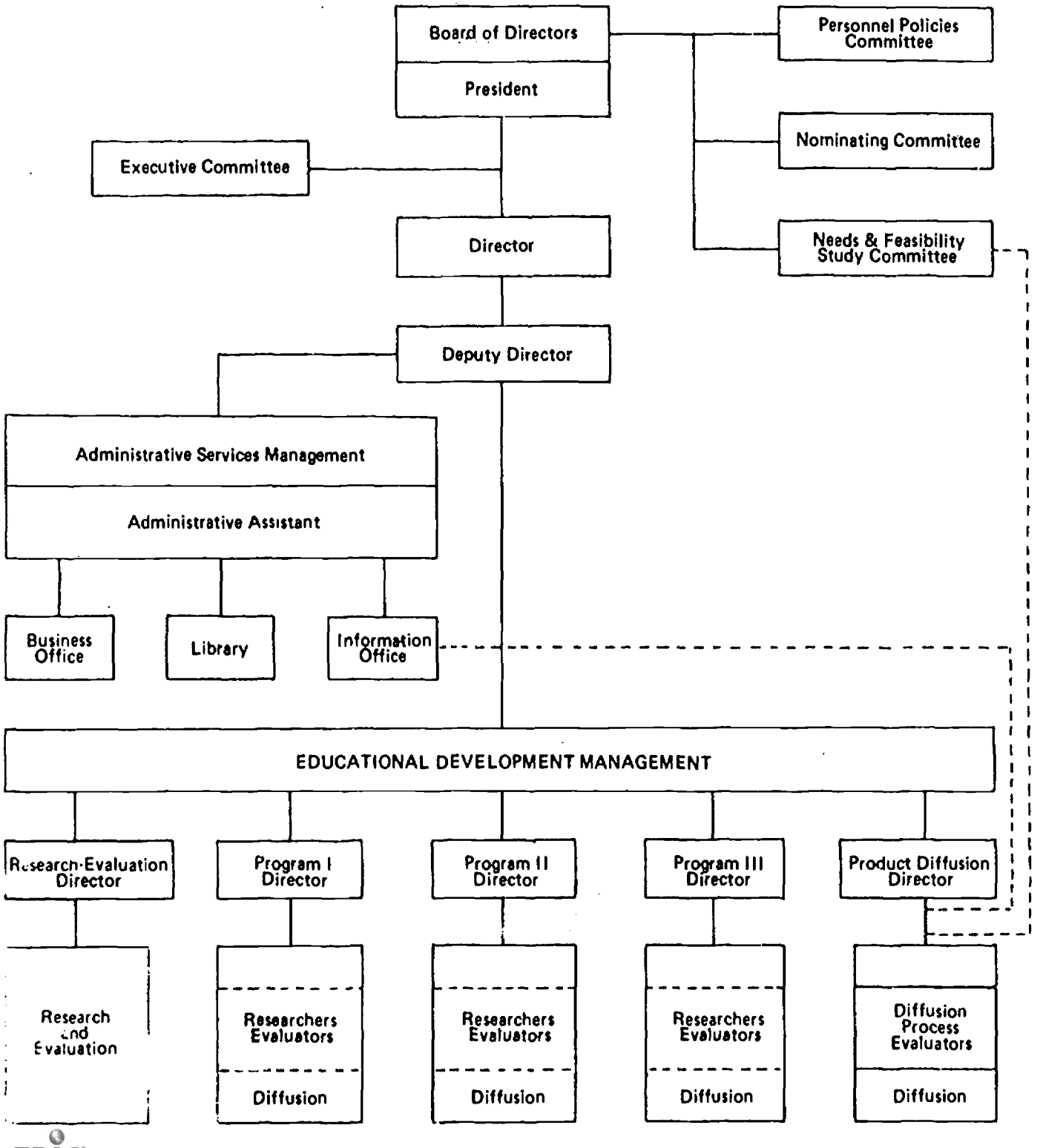
*Figure 3 is an adaptation of the organization chart currently used by the Appalachia Educational Laboratory.

Figure 3

An Organizational Schema for Implementing the Diffusion Paradigm



positively when they know the strategy used to sell them an innovation. Hence, there is no basis for diffusers either to reveal or to conceal their strategy from agency personnel. It is a matter of choice.

Now, The Application

Applying its own suggested procedures, the paper next provides guidelines for application of the paradigm in an R & D agency. In the hypothetical example used to present the guidelines, the paradigm is presented as a program output, the R & D agency as the consumer, the writers as the diffuser. Diffusion tactics employed include an organizational structure intended to facilitate implementation of the paradigm in the R & D agency.

Being more of a practically advisory nature than Part I, Part 2 speaks directly to the diffuser working with other R & D personnel.

Getting Where You Want To Go

Because, as a diffuser, you have many ways to communicate with your consuming public, you need some procedure to systematically select, implement, and evaluate the most efficient tactics for achieving desired objectives or behavioral responses.

It is instructive to draw from successful experience in such fields as industrial management, military management, or, recently, PPBS in education and other governmental efforts. The magic seems to be in some systems approach to the task at hand.

Kirkpatrick presented (1972) a sensible dissemination-planning model for R & D institutions which consists of seven steps. These include:

1. State dissemination objectives.
2. Define target audience.
3. Identify appropriate message.
4. Identify communication channels.
5. Match priorities to costs.
6. Implement tactics.
7. Evaluate tactics.

Each of the seven steps will be explained to indicate how it can be used effectively. Dissemination activities, primarily, are designed to elicit specific desired responses from the consumer.

The only modification the authors have made in Kirkpatrick's model is that of adapting it to our diffusion terminology. New stages will be added to facilitate the synthesis of tactic-evaluation information and to generate the diffusion strategy for a particular program output.

The resources which an institution expends on dissemination depends not only upon its total resource allocation but also on the relative importance which it assigns to this function. The latter concern tends to be a value judgment reflecting the attitude of decision-makers within the institution, unless a system similar to the one proposed here is used to provide rational data into the decision-making.

The diffusion paradigm is based on the premise that diffusers, as well as developers and research-evaluators, must be accountable for their actions.

State Dissemination Objectives

The paradigm provides a basis for setting objectives for dissemination-diffusion tactics. Diffusion strives for adoption and institutionalization of tested and proven R & D products. Recognizing that not all people or institutions will be inclined to accept these products at once, the paradigm isolates stages of consumer responses which may be conveniently viewed as positions on a continuum--with no problem or need on one end and the institutionalization of the R & D program output on the other.

Analyze Mission of Institution and Program Goals

Your first step in arriving at the specific dissemination objectives for a specific dissemination tactic is to analyze the goals of the organization. The educational laboratories had as one of their original mandates the dissemination of information from research and development efforts to the consuming public.

Diffusion objectives must be related to the overall mission and goals of the R & D agency. These goals must be considered on both the institutional and program-product levels. The mission statement is one that must constantly be refined to reflect the changing state of the society. Basically, the mission of the R & D agency provides a rationale for the allocation of resources. You must learn the institutional mission well if you are to be effective in carrying it out. To this end, you should:

1. Develop a clear mental picture of the situation being studied. This calls for imagination, because it is never possible to have all the facts.

2. Clarify the problem. The purpose--or, in military terms, the "mission"--should be clearly set forth and then the operating situation should be reviewed to determine the difficulties in reaching it. Ask yourself, "Just what is wanted, and what am I up against."

3. Determine the alternatives and the key factors in deciding which is best. This is the heart of the analytical phase. Usually there are several possible solutions to a problem, and the wise choice must rest on identifying the crucial difference. This factoring of the problem enables one to concentrate on the important issues and avoid wasting time on insignificant matters.

4. Marshal and analyze the facts. Here "facts" include opinions, inferences, and forecasts as well as historical records and statistics. Care must be taken to appraise the reliability of such information; rarely is it possible to make executive decisions solely on the basis of objective data. These data, then, must be shifted, combined, and related to the alternatives and factors developed in step three.

5. Decide on the course of action. Judgment is usually still necessary in deciding just what plans to follow. Often one factor must be balanced against another, adjustments made for uncertainty, and full recognition given to timing and difficulties of putting the plan into effect.

6. Check the decision from several angles. Executive action almost always deals with a complex situation, so it is wise to examine a plan from several different points of view. For instance, an institutional plan can be checked by tracing a typical transaction from start to finish to make sure "who does what" is clear. Or a diffusion decision may be checked by putting yourself into the position of several different individuals and thinking how each will react.

7. Prepare an appropriate recommendation or plan. (Schoenfeld, 1963)

Once the institutional goals have been determined, then goals for specific programs can be established. The program goals should be directly derived from the institutional goals.

The objectives for the creation of the program output are specified by developers with assistance from evaluators. The objectives for the dissemination tactics become the desired consumer responses. Some dissemination objectives will deal with an intermediate consumer group. Some will deal more specifically with the institutional image or concerns across programs.

For example, an R & D institution needs to be concerned with establishing and maintaining its credibility with similar institutions and universities. This is done by communicating with professional peers at conferences, conventions, through professional journal articles, paper presentations, etc. This is an important objective for two reasons: First, agency needs credibility in order to be able to continue to attract talented people for its R & D endeavors. Second, the institutional image or credibility is crucial in application for funds.

Identify Related Dissemination Problems/Needs

Once you have reviewed institutional, program, and product goals and identified potential dissemination objectives, then you need to discover the problems which are related to these goals. Questions such as the following will help guide these efforts:

What methods are most effective in communicating with target

audiences?

How can diffusion be planned to use media efficiently?

How does the consumer perceive me, my institution, the R & D agency, and/or our mission?

Evaluators assigned to diffusion will be helpful in posing these kinds of questions.

Determine How Diffusion Can Solve These Problems

You must find ways to meet communication problems or needs. For example, the question above that deals with the consumer's perception of the institution can be a thorn in your side. The R & D process is often viewed as a slow and cumbersome process. The consumer can get impatient or can place unwarranted confidence in an untested innovation (at the field test stage). This can lead to disillusionment with the R & D world and with the particular R & D institution. You can also create in the consumer a premature air of expectation that the program output will be the magic potion which will solve all ills. This can result in a disappointment that becomes very difficult to overcome when the tested program output does become available for mass distribution.

These kinds of problems make it necessary for diffusion efforts to be coordinated with public relations or public information efforts.

Formulate Diffusion Objectives

Consistent with being held accountable for your use of resources, you must formulate diffusion and dissemination objectives which can then aid the measurement of progress toward fulfilling the entire R & D institution's mission.

A dissemination objective is an intent communicated by a statement describing a proposed change in the consumer (Mager, 1962). It is a statement of what you want the receiver of your message to be like when he has successfully interpreted it. It likewise describes some kind of performance response on the part of the consumer which can be used as a criterion to measure what happens. The objective is a subgoal which you work toward in pursuit of the larger long-range program goals (to solve some problem or meet some need) and/or in pursuit of the larger institutional mission.

The smaller intermediate objectives are necessary if the efforts of the diffusion staff and the institution are ever to result in achievement of those longer-range goals. The pattern provides a framework for breaking the larger mission, program, and diffusion goals down into smaller specific objectives for each specific diffusion activity.

This framework should encourage you to select many different tactics throughout the educational development process. The consumer's response is also broken down into smaller discrete behaviors. These behavioral responses provide instrumental objectives which guide your efforts to-

ward making an adoption decision and totally integrating or institutionalizing the new product into the established practices that you use.

Examples of desired consumer responses and discrete statements of objectives follow:

> The R & D agency's need is to establish an early childhood education staff as capable of producing a television-based program. This results in a need to disseminate information to professional colleagues in other institutions working in the same field, television. This is necessary because potential users will attempt to judge the product on the basis of the credibility which it has with experts in the field. The desired consumer response is for legitimizing so that a trial decision can be made. Research in diffusion tells us that in that area of the consumer adoption continuum the persons or organizations interested in utilizing a product will seek support for their proposed decision to use it by asking advice from people they trust. Established experts in most fields are trusted; hence, the following dissemination objective can be stated:
>
> > Provide information to professional peers working at similar agencies to establish credibility of and endorsement for the product being diffused.
>
> A second objective related to this need would be:
>
> > Provide brochure which appropriately displays professional endorsements of the product to legitimize it and cause potential users to try the product.

Carefully written specific objectives can most efficiently guide the creative efforts of the diffusion staff and help get usable feedback to refine and validate the diffusion/dissemination tactics used.

Define Target Audience

Consumer is the term used in the paradigm to refer to the user of the product of educational development. The consumer is the object of the communications process.

It would be pleasing if all dissemination could be on a one-to-one basis, for that is the simplest, most effective kind of communication setting. The disseminator could very easily assess his audience in that setting. He could then tailor his messages to fit that individual, receive feedback about whether he is communicating as desired and alter his message as necessary. However, in practice, consumers are more elusive, simply because there are too many of them.

Identify All Potential Consumers

After starting with the institutional mission, proceeding to the program goals, and forming specific dissemination objectives, you should

Identify all of the possible consumers who might be using the product. Then, you need to isolate all groups of people who must be enlisted as advocates to get the product adopted. Well-stated objectives will go far in helping you adequately identify these different publics. A careful description of what role each audience will play in the eventual adoption of the product will be very helpful.

Schoenfeld offers (1963) several useful approaches for classifying the consumer.

Publics can be usefully classified in a number of ways: (1) by their physical or functional relationship to your organization, (2) by inherent characteristics, (3) by their knowledge of a particular subject, (4) by their attitude toward you, (5) by their susceptibility to new ideas, and (6) by their social status. These classifications are not mutually exclusive; they overlap in constantly shifting patterns.

Initially, the most useful way for you to identify your publics is by their physical or functional relationships to you. This list will vary in its details from organization to organization, but with few exceptions, it will reflect the major categories listed here.

Past, present, and potential customers or clients. A store calls them *customers*, a service agency calls them *clients*, and associations call them *members*, a college calls them *students*, a church calls them *parishioners*. Whatever the name, this is a number one public in the life of every enterprise--the consumer.

Unclassified groups. For every organization, there are miscellaneous publics with whom sound relations are vital, including the "general public" itself.

Business associates. Suppliers, wholesalers, bankers, professional associations, competitors, sister institutions, and so on.

Leaders. The individuals in key positions in government, in education, and in other postions of authority or influence who are in a strategic position to polish or smudge your institutional image.

Internal public. Communication begins at home--with your messages to employees and management.

Community. The city, area, region, or state in which your organization is located is an important public in and of itself. In turn, it is a miniature of the entire public.

Funding agencies. Anybody who invests money in your enterprise enters a very special public, meriting more than average attention. For some commercial enterprises, the stockholder public may be small (NIE, state education departments, foundation). For some public agencies, the eventual stockholder public is the taxpaying public.

On occasion you will want to break down your general public into groups

having certain things in common other than relationships to you.

The public made up of one occupational group

The public which has the same religious beliefs

The public which has the same political beliefs

The public which is about the same age

The public which has some common experience or loyalty

Knowledge publics. Any public can and should be broken down according to varying degrees of knowledge about the message you wish to communicate:

The individuals with little or no understanding of the subject (parents)

The group with a "speaking acquaintance" with your theme (teachers)

The expert public (professors, researchers, administrators).

Attitude publics. Particularly if your message is meant to be persuasive, it is important that you consider the probable reaction of your targets to your proposition. Here again, you can make a three-layer classification:

The public which is already favorable

The public which is in doubt

The public which is hostile

Susceptibility publics. Recent communications research shows there are significant differences among individuals with respect to their susceptibility to adopting new ideas and practices. Consequently, superimposed on the other classifications, is a pyramid like this:

(1) Innovators

(2) Early adopters

(3) Early majority

(4) Majority

(5) Nonadopters (Beal and Bohlen, 1955)

Socioeconomic publics. An understanding of the country's six-class socioeconomic system helps unravel some of the complexities involved in dissemination:

Percent of Total Pop.		
1	Upper-upper:	inherited and unassailable social position
1	Lower-upper:	"moving up"
8	Upper-middle:	professional and business classes
30	Lower-middle:	white-collar workers and small entrepreneurs
50	Upper-lower:	blue-collar workers
10	Lower-lower:	unskilled, unorganized workers

Each class represents a powerful subculture with its own value system and personality and behavior patterns. Because ours is a fluid culture, there is a constant upgrading of tastes and values. The current "high-style" is always exemplified by the upper-middle class. We find most of the designing and advertising slanted in this direction.

Each R & D agency must determine the classes it wants to reach. You find out what the image of your product or service is in the mind of the user, then gear the whole marketing approach accordingly (Gardner, 1959).

The classifications we have been talking about are necessarily gross. For your particular purposes as a diffuser/disseminator, you will want to refine considerably any list of publics. Because diffusion programs are necessarily often concerned with tremendous trifles, your list may be long.

For most R & D agencies, the only paper description of the various publics which make up the consumer is represented in a mailing list. The mailing list may have been categorized into various identifiable consumer groups. Two examples of this kind of target audience classification are included as an appendix. One gives a perspective from a regional educational development laboratory while the other gives the perspective of a national R & D center with a specific subject matter focus.

Describe The Role Each Public Has In The Diffusion Pattern

The task of getting to know your publics and the ways they influence the potential consumers ranks as high for the diffuser/disseminator as the task of knowing your product and your organization which produced it. It amounts to evaluating each classification of the targeted publics and determining the relative importance which each has in relation to the mission of the diffusion function and the R & D institution as a whole.

In almost every case, the different classifications which you develop will overlap. For example, the eventual consumer, the teacher of a local school district, may also be president of a state or local professional organization. In these dual roles, an individual can either be an ideal advocate and opinion leader in influencing others to accept the product or be a powerful resistance factor which you must learn to work with before anyone will adopt the program output. Another example is a state department of education person who is a local board member. The better you sense the ramifications of these interrelationships, the better you will

communicate effectively with any one target group.

Schoenfeld expresses (1963) a pertinent concern. He says, "...you can't get away with talk out of both sides of your mouth. Your message can be slanted toward the various publics, but its basic proposition must be consistent." (p. 5)

The diffuser must also remember that each public will be in a constant state of flux. Persons move in and out of them, up and down in them with astonishing rapidity. Witness the experiences that go with attempts of keeping a large, active mailing list up to date and accurate. The task of identifying and evaluating your publics and their impact upon the targeted consumers is a never-ending one.

Furthermore, you must consider the best medium for each public. Direct mail via the categorical mailing is an economical method to communicate with some of your adopting decision-makers, *e.g.*, local superintendents or potential linking advocates, such as consortium representatives in state departments. A teacher's professional journal or a researcher's professional journal is a more economical way to reach larger groups of potential consumers. Mass media--radio, television, newspapers--are more effective in creating a popular attitude change in support of a product.

Establish Priority Ranking For The Publics

A final point in knowing your publics: Some are more important than others at certain times. Assess the relative importance of these public classifications objectively. One convenient way is to determine who most needs to know what at each stage of the development process.

In summary, your publics are your targets. They receive your messages. If you have identified all of your publics, classified them for ease of working with groups of them, and evaluated their relationship to your mission, it will be easier for you to carry out your tactics.

Identify Appropriate Message

We have examined our R & D organization--that is the messenger, its refined mission, the derived objectives for the diffusion/dissemination function, and specific behavioral objectives for each tactic. We have examined in some detail the target of our communications, the public, and the consumer. We are now in position to define the message itself.

Determine Content Of Message

The first step in determining the content of your message is offered by Francis Pray (1960). He said, "First you must develop a *clear, vigorous,* and *inspiring* written statement about your institution." (p. 5)

What exactly do you want to get across to your receiver? The subject matter content will vary considerably from R & D agency to agency. Each time you want to prepare a message the other factors above will influence the content ingredients. No one can tell you what to communicate, but this guidebook says this: *Decide* on a specific message or series of

messages, and then *refine* it.

This may sound a bit trite, but it is crucial. The experience which the author has had during the last three years as a practitioner in dissemination programs at two different R & D agencies, one center and one lab, reinforces this importance.

It is temptingly easy to delay the time when we must define our messages clearly, succinctly, and candidly. The problem according to Schoenfeld (1963) is typically not that we don't know enough about the messenger or the mission, but that we know too much. So, we resist any effort at concretely distilling the message down to its essential elements.

A distilled message should take one of these forms:

> A very short statement of central fact or opinion.
>
> A list of themes to be developed. (Schoenfeld, 1963, p. 43)

These elements become the building blocks around which we then construct the copy. The quicker you put the first draft on paper, the better the whole process moves. You can then modify it yourself, and you can elicit feedback from colleagues which can be of tremendous help. They can give you a potential public's or consumer's viewpoint. This helps to knock the diffuser/disseminator out of a particular bias in a hurry.

Drawing from a newspaper writer's perspective, ask yourself, "If I had to file 100 words on this message in the next five minutes, what would I write?" This helps you disperse a fog of information over-kill in a hurry.

In case of an oral communication, put yourself in the position of a salesman who has only two minutes to see an important prospect and only five minutes to prepare his sales pitch. If you meet this test, you are well on your way.

Determine Emphasis Of The Message

There are many different ways that you can organize the selected content. A brief word about designing this content to efficiently meet the specified objectives follows.

You will find two broad types of message styles useful: the demonstrative and the motivational.

By "demonstrative", we mean "showing feeling". In transmitting a demonstrative message, you express your emotions and try to arouse a similar feeling in your audience. Examples of this kind of message are speeches of welcome, commemorative events, mood pictures, and award presentations. The audience's attention is focused as much on the manner of communicating as on the message. This is not to say that the components of a demonstrative message are unimportant. On the contrary, the symbols must be chosen with special care. They must be selected not so much for the argument they convey as for the mood they help create.

In a motivational message, you seek a response more definite than getting your audience into an appropriate mood. You try to gain a specific reaction by providing your audience with a motive, with "something that prompts a person to act in a certain way". The "certain way" you want your target to respond determines the mission of the message.

A demonstrative message may blend into a motivation message. A motivational message may also have demonstrative elements.

Determine Extent of Message

This point refers to how much we tell and how long we bend our audiences's ear. Detail and length are determined by all the factors discussed above. Among them are the role of the target audience, how busy it is , and its interest in the topic. This may be very difficult to resolve, since the institution typically wants target audiences to develop a more detailed understanding that can be expected realistically.

Identify Communication Channels

Two important aspects must be considered under this task. First, that you have a wide range of media from which to choose. Second, that the selection of a particular medium implies the need for a system by which it can be used to reach the particular consumer.

Identify Media Options

Consider the media you have access to:

Mass media. Newspapers, magazines, radio, and network TV for carrying your news stories, feature articles, scripts, tapes, films, and institutional advertisements.

External editorial matter. Letters, fliers, bill-envelope inserts, reports, newsletters, reprints, bulletins, brochures, and handbooks that you mail or hand out.

Direct contact. Speeches, agency tours, open houses, visitor days, meetings, committees, staged events, conferences, special "days", contests, personal conversations (direct or by phone), and drop-in visits, casual or invited.

Audio-visual aids. Film strips, movies, slides, signs, billboards, still picture, chart posters, displays, exhibits, closed-circuit TV, video tapes, cassette tapes.

The most effective procedure is to capitalize on the existing communications habits of the target group; that is, determine how they regularly get information, and then use those mechanisms as much as possible. This involves determining what printed material they read regularly, what meetings they attend, and what individuals they get information from. Furthermore, the diffuser wants to know how much confidence a particular audience group has in a particular medium.

Evaluate Efficiency And Dependability Of Each Medium

Once usable media have been identified for communicating with each target, they should be considered in light of

Efficiency-dependability

Effectiveness

Cost

You can readily see that there are significant differences among the media. For one thing, according to your relationship to them, they can be classified as *controlled, uncontrolled,* and *semi-controlled.* The local newspaper, for example, is an uncontrollable medium so far as you're concerned. You cannot dictate when, how, or if your news release will appear. But, your company house organ is a medium which you can control completely. In between are the semi-controlled media, such as the speeches your program director gives. You can ghost-write the scripts, but you can't control the manner of delivery of the ad libs.

The media vary also in their relationships to the various publics. Some are *shotgun* media. That is, through them you can spray out a story that may or may not hit your target audience. A large general-circulation magazine is a shotgun medium. Others are *rifle* media with which you can hit every small target. For example, given a good set of addresses in your categorical mailing lists, you can aim for and hit a specific audience by direct mail. In between are the *shotgun-slug* media, such as professional journals, exhibits, or regional newspapers, through which you can focus your aim somewhat.

Normally, to transmit any given message you will select a number of media. Chances are you will be most effective when you use a variety of mutually supporting devices, at least as many as budget and prudence allows.

Professor Stewart Harrel of the University of Oklahoma lists 21 points to watch in choosing media:

1. What is the frequency of impact?

2. Does the medium under consideration possess certain psychological advantages?

3. Do people use it (consciously or unconsciously) for learning--as a source of information?

4. What is its competition (in terms of time, interest, impact, etc.)?

5. Has its effectiveness been measured in terms of the specific audience which you have in mind?

6. Can the receiver, listener, or reader control the exposure? A newspaper reader, for instance, can set his own pace

whereas the television viewer has no control whatever over the speed of the material which he sees.

7. Is the treatment limited? You may listen to a few minutes of news by radio. On the other hand, you might read several books on the same subject.

8. Is the channel specialized? The *Dog Lovers' Monthly* reaches a special segment of the public whereas *Time* reaches a general audience.

9. Is there a feeling of group participation? We know that a person is more likely to respond to an idea when he feels that others are likewise responding.

10. Does the medium possess an element of picturization? Naturally, this is very high in movies, television offerings, picture booklets, and other media. Are pictures enough?

11. What is the degree of recall? This is usually much higher for visual materials (photographs, movies, graphs, charts, maps, etc.).

12. Can one medium carry the load or should we use multiple media?

13. What is the major aim of the medium--to entertain? Instruct? Persuade? Interpret? Or does it have a combination of these aims?

14. What are the unique qualities of the audience to whom the ideas are being beamed? Think in terms of education, income, geographical location, age, sex, and other factors.

15. Do people possess emotional feelings toward the medium? Readers of the small home-town newspaper, for example, have an emotional feeling toward the publication. It is close to their lives.

16. Do people question the credibility of the medium?

17. Just how difficult is the material which you plan to project?

18. Will you communicate the ideas in a visual, auditory, or printed way? Combination?

19. What is the cultural level of my audience? What are the mores, customs, traditions, beliefs, and cultural values which hold this group together?

20. Does the material lend itself to flexibility? Can it be subdivided for use in a combination of media? Over a period of time?

21. What are the special space-time problems of this particular project. Example: It's easier to put over a few ideas at one Kiwanis Club than it is to get over the same ideas to 49 Kiwanis Clubs located all over the state. (Harrell, 1958, p. 22)

Assess Techniques For Measuring Media Effectiveness

You must judge how effective various media are in reaching your target audiences. Often you will make this judgment based upon your own experiences. But there are other criteria.

From the conceptual works of Clark, Guba, Horvat, Stufflebeam, and others we may glean standards by which reasoned assessments may be made. Consider the following ways to measure effectiveness:

Intelligibility

Fidelity

Pervasiveness

Impact

Credibility

Convenience

Evidential assessment

Intelligibility requires that the information be complete, concise, and relevant to the adopter's problem.

Fidelity demands that the innovation be described clearly and truthfully.

Pervasiveness asks if the media reach all parts and levels of the target audience.

Impact is the matter of how the media affects the potential adopter.

For the tested product, you might disseminate information to teachers, teacher educators, curriculum specialists, school administrators, measurement specialists, and guidance personnel. There is no guarantee, however, that the potential adopter will consider the innovation enough to adopt it.

Potential adopters should have an opportunity to view an innovation while it is operating under ordinary circumstances. Demonstration is necessary to let decision-makers examine the invention and gain confidence in its effectiveness. The criteria for evaluating such a demonstration are *credibility* (Is the demonstration a trustworthy example of how the innovation operates under ordinary circumstances?), *convenience* (Are the time and location of it convenient for the key change agents?), and *evidential assessment* (Does it provide a range and depth of information and experience

about the innovation?).

Once these criteria have been met, the dissemination tactic and diffusion strategy is collectively complete. The key change agents in the target situation have been informed about and provided a first-hand opportunity to assess the innovation.

Kirkpatrick expressed his standards:

Efficiency-dependability. Generally, this reflects a concern that the message transmitted is the same one received. The more direct the transmission, the more dependable it is. The more intermediaries it must go through, the less dependable.

A publication written and produced by the institution and transmitted to the targeted group directly is the most dependable. But, it also may be the least read. An article written by a staff member of an institution and printed in the publication (journal, newsletter, etc.) of another organization is not apt to be changed significantly without the author's consent, but it may be edited or shortened, unintentionally changing the content.

A message transmitted through a human intermediary is dependent on the level of understanding of even a well-intentioned conveyor and subject to his personal interests and communications abilities. A recently enlisted advocate may not have a complete grasp of the product but attempt to sell it through his persuasive ability. Most hazardous of all is to rely on a writer from another agency (a newspaper writer or journal editor) to gather the information, select from it, and put it into his own words with his own emphasis.

Effectiveness. This concern focuses on the question of how much attention the communication receives from the target and, ultimately, whether it has an influence on it. The credibility of the "messenger" in the eyes of the audience is very important, and this is directly related to capitalizing on existing audience habits. (Kirkpatrick, 1972)

Estimate Cost of Using Medium

Any media decision must take cost into account. Some methods for communicating with your publics simply cost more than others. However, to look only at total cost or even per unit cost may be shortsighted in terms of the eventual outcome of a particular tactic. You must make practical judgments regarding direct costs and accompanying consequences (Rogers and Shoemaker, 1971). Record them and refine them as experience directs.

Identify Delivery System

In many cases you have identified some delivery systems by going through the process of defining your publics. Many publics are not your ultimate consumers. They are, however, extremely important in influencing the decision to adopt a product. If these publics are systematically accessible, then they are a potential delivery system.

Some examples:

A professional organization such as the National Council of Local Administrators in Vocational Education (NCLA) represents a highly respected opinion-leader organization for local directors of vocational education. Communication through their newsletter, *Lettergram*, or a program at their convention would prove an effective delivery system for vocational education products.

The *Conference on Educational Development and Research* (CEDaR) was developed by the R & D labs and centers as a joint public relations tool.

The Consortium of State Departments of Education in the Appalachian Region (The Consortium) was organized as a communications channel to assist in the delivery of AEL's *Home-Oriented Preschool Education* (HOPE) *Program* to the children of the Appalachian Region.

Evaluate Efficiency and Dependability of Delivery Systems

The effectiveness of delivery systems is just as crucial as the effectiveness of the media. The questions asked by Harrell and the criteria identified above are guides for evaluating the adequacy of the delivery mechanism. Cost factors, however difficult to come by, must also be reviewed.

Match Priorities To Costs

This step is the final one before specific tactic decisions are made and a particular tactic is selected. The rather elaborate procedure which has just been laid out before you may be more confusing than helpful. Don't forget that some of these operations will be needed only once. Others will just be reviewed or brought up to date as needed. However, if the procedure is followed or adapted to meet the R & D agency's needs, then it will help you give proper attention to parts of your diffusion effort that otherwise may be overlooked.

Many of these procedures involve making value judgments based upon your own experiences and reading. You must then select from alternatives available. Assuming no R & D agency can afford the "ultimate" diffusion program, some target groups which meet criteria for receiving attention will, nonetheless, get little. Of several communications methods which have merit, resources may only permit the use of one. Therefore, some hard judgments must be made. This is where management comes in.

Diffusion requires two critical personnel skills in addition to the various communication requirements. These are planning and managing. This synthesizing operation requires both.

Consolidate Information On Mission, Objectives, Publics, Messages, Delivery Systems

This task requires some method of displaying the above information in a

usable form. Probably the most effective way would be to utilize PPBS style document formats in developing program budgets for each objective. By applying cost estimates, uniformly based upon experience, professional judgment and/or research based information, where available, the planners can display the material in a way that the decision-maker can make the best decisions.

You may refer to the practical PPB literature which is widely available for specific formats of documents to accomplish this task.

Decide On Priorities, Costs, Resources

The decision-maker, probably the head of a diffusion function staff, must make decisions about (1) the priority of objectives, (2) the audience to reach first, (3) the relevance of cost data, (4) the content of messages, and (5) the priority of media and delivery systems. In the past many of these decisions were made on a contextual or instinctive basis and not on the basis of the best information available.

Of course, the importance of the objective will dictate the amount of time devoted to securing information to make the decision and the level of decision. A simple tactic such as the style of an exhibit at an annual meeting (convention-type) will be made by lower-level decision-makers. However, the question of whether or not an exhibit is useful and where it fits in the diffusion program will be made by the head of the diffusion staff. And, the head of the R & D organization and the funding sources will decide how important exhibits are in relation to other options and whether or not they are willing to put dollars on that kind of tactic.

Select Tactic

It may seem like the selection process will command so much of your time that little will be left to implement the tactic once it is selected. But, good planning really saves time, not spends it.

Studying your market and then tailoring your pitch to the situation is the soul of a sound diffusion program.

Schoenfeld suggests (1963) that each diffuser develop personal experience tables to provide clues to the costs of devices the diffuser normally employs and get tight estimates on jobs not covered by personal experience.

One approach is to develop a diffusion plan that you would like to implement and then let top management decide how much of it they would be willing to pay for. An alternative is to ask management to quote you the maximum figure they will allow and then for you to parcel this out among media tactics according to your best judgment.

Implement Tactics

This very visible job in the diffusion program must now be carried out. It is where technical communication skills are needed in preparing the message, applying the media, and speeding the resulting capsule on its way toward its intended consumer.

Your mission is to perform the marriage of messenger, media, and publics through the method of well-tailored messages.

Regardless of which public or consumer group individuals belong to, they are, first and last, individuals who share with others certain common traits of human behavior that affect this mating process.

Roy Leffingwell has distilled a great deal of human-relations research into "reliable indicators as to how the public will act, and react, under certain conditions":

> All people have basic needs--economic security, social recognition, a feeling of accomplishment, personal security, adventure-recreation.
>
> Human dignity and self-respect are all-important--people of all types everywhere have a profound desire to be treated like human beings.
>
> All racial groups are born equal--there is no basis in fact to theories of racial superiority.
>
> People are most interested in themselves.
>
> Most people believe they are right.
>
> Job performance depends upon satisfactions obtained.
>
> Participation is important in providing satisfactions.
>
> What people expect may be as important as what they get.
>
> People believe what they want to believe.
>
> People are interested: first, in people; second, in things; third, in ideas.
>
> The majority of people are "middle-of-the-road" thinkers.
>
> People are "good guys".

You must use these elements in much the same manner as you use the operator's manual of your car. They provide important clues on how human beings function.

Evaluate Tactics

It is very crucial that you make provisions for evaluating the results of your efforts. Without systematic attention to this task, no one can be held accountable for the success or failure of either the diffusion program effort or the development effort. If you have systematically followed the decision process just described, then you will have several elements of an evaluation design.

Log Decision Activity

Provis talked (1971) about three important elements of what he called "discrepancy evaluation"; outcomes, antecedents, and processes. It may be helpful for you to set up a three-column chart to help you view the specific dimensions, the program chart to help you view the specific dimensions, the program definition, and judgments about each of the above elements.

The chart would look like this:

Specific Dimensions	Program Definition	Judgments
1. Major objective to diffuse HOPE process A. Terminal objectives: (1) provide consultants for 10 regional agencies relating to adoption of HOPE	As a result of this technical assistance, these agencies will 1. Be able to understand the three components of HOPE. 2. Be able to identify potential home visitors. 3. Set up training program for home visitors.	1. Twenty contacts were made with regional agencies. Twelve were judged as only creating an organizational awareness of the process.

You follow the same process with the antecedents and processes. With this evaluation design you are ready to log in the activities, tasks, and subtasks as they are accomplished or passed over. This data then permits the decision-maker to decide upon the documented evidence about each tactic. This evaluation data is used as a tool in finding out which tactics are effective.

Refine, Modify, Or Discard Tactic

Consideration of a tactic's usefulness is based upon empirical evidence. The paradigm calls for diffusion to make full use of this procedure in validating sets of tactics which can then be synthesized into a diffusion strategy.

Research Diffusion Theory and Practice

Some research programs that are studying the processes of change, and particularly the processes of diffusion, are currently being supported. The diffusion program at The Center for Vocational and Technical Education, the administering-for-change program at Research for Better

Schools, Inc., and the communication program at Far West Laboratory all are making excellent contributions to this body of knowledge. Further attempts to organize the existing knowledge similar to this present diffusion series would be valuable.

Whatever the method, motivation, or support we must move faster toward drawing from practical experiences in communications, public relations, marketing, consumer behavior, journalism, rural sociology, and the agricultural extension service.

Generating A Diffusion Strategy Decision Process

As a diffuser, you operate at the tactic level all through the planning and development stages of the educational development model. Then as the operational testing stage proceeds, you must synthesize all of your documented information into an overall marketing plan for the product. This marketing plan is the diffusion strategy that will be used when the product comes off the "assembly line". The distribution detail, the installation procedures, the training systems, and the service systems must all be programmed to mesh together at this point. Equally important is the need to develop financial support for this diffusion strategy implementation. Decisions must have been made as to whether or not the diffusion program will be self-supporting. If not, then public support must be secured through the grant and/or contract basis.

Evaluating And Revision Diffusion Strategy

The diffusion strategy must be evaluated in its aggregated form in much the same way that individual tactics were assessed, based upon this data then, the strategy, though carefully planned out in advance, must be flexible enough to be altered as the data suggests.

Now, let's proceed to a time-flow look at the diffuser's tasks and the probable consumer responses.

What Your Job Is--And When

The educational development model presented at the beginning of this book identifies seven stages or time frames around which the activities of an R & D agency could be organized.

We first attempted to assign logical tasks to the three main groups of professionals within the R & D organization: developers, researcher-evaluators, and diffusers. Ultimately, though, we became convinced that we also needed to identify the desired consumer response to each task performed by the diffuser/disseminator.

Funding agencies. This group is important because they provide the resources necessary to perform the research, development, evaluation, and diffusion activities which contribute to planned educational change. Included among these are such government agencies as Office of Education, National Institute of Education, Office of Child Development, Office of Economic Opportunity, and National Science Foundation; foundations such

as the Ford, Rockefeller, I/D/E/A (Kettering), and Kellog; private corporations such as the Institute of Educational Development, R & D laboratories, and publishers; state or local school districts; and professional organizations, such as NEA and AVA.

Public agencies. This group of agencies includes all organizations or groups that have special interests in the educational change process. Many of them are considered as advocates that help promote, stimulate, or otherwise affect the movement of products through the diffusion process. These include: labor groups, legislators, congressmen, chambers of commerce, Civil Liberties Union, PTA's, NAACP, Urban League, CAP, or other organized public groups.

Marketing agencies. This group includes all organizations that assist in the advertising, selling, promoting, distributing, training, and/or servicing the R & D products. Included in this group are publishers, printers, professional organizations (conventions, journals), producers, and distributors of R & D based products.

Educational agencies. This group includes all of the organizations now considered in the established school system, including local school districts, regional educational agencies, state departments of education, multi-state consortia of state and/or local agencies, universities and colleges, R & D centers and regional educational laboratories, and federal agencies.

In most cases, the educational agencies are the instrumental adopters. That is, they include the professional people who use the product. The ultimate consumer, the learner, generally does not have any decision-making power at all. However, the diffuser and developer must keep in mind, "Will this help the kids?" Only then will society as a whole realize the impact of the educational change.

As you read Tables II through VIII--one for each stage of development--please remember that the diffuser will be performing the task designated on the left and thereby eliciting a response from one of the consumer segments. This, in turn, results in the adopting consumer moving further down the adoption (use) continuum toward eventual institutionalization of the process or product into the body of established practices.

In some situations, with some products, a response identity may not fit. For example, when the product is in book form, published by a commercial publisher, the marketing agencies practically take over the diffuser's responsibilities after the contract has been worked out. Some thin market products will not have a broad enough market to merit the involvement of commercial publishers and those responses would not be appropriate.

Table II

Stage I: Needs Assessment and Preliminary Market Analysis

R & D Agency Diffusers	Funding Agencies	Public Agencies	Market Agencies	Education Agencies
Identify goals and objectives	Support market research	Help define goals		Refine goals based upon market experiences
Seek local-state involvement		Select representative to assist R & D agency		
Identify instrument content		Identify problems, needs, and opportunities	Identify problems, needs, and opportunities	
Arrange for validation with consumers		Assist in arranging for validation		
Assist in identifying sample				
Arrange to test sample				
Advise/assist in instrument	Approve research design	Provide accurate data	Provide accurate data	
Review aggregated data				
Assist in writing report				
Priority ranking of needs	Reinforce ranking of needs or refute (documented)	Assist in ranking needs	Assist in ranking needs	Evaluate adequacy of ranking in terms of market

Table II (Cont'd)

Stage 1 (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Market Agencies	Education Agencies
Maintain log of consumer contacts		Contact R & D agency for information		
Establish method for validating needs		Provide reality check on needs	Provide reality check on needs	
Validate priority ranking of needs		Assist in validating ranking of needs	Assist in validating ranking of needs	
Assist in finalizing report				
Distribute assessment report	Support wide dissemination of needs report	Receive and distribute and stimulate discussion of report		

Table 111

Stage 2: Feasibility Analysis of Program Alternatives

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Assess size of market		Assist in assessing size of market	Assist in assessing size of market	
Specify solution goals				
Generate alternatives		Brainstorming on alternatives	Brainstorming on alternatives possible	
Assess competitive alternatives		Give estimates of cost and effectiveness of alternatives	Gives estimates of cost and effectiveness of alternatives	
Compare cost alternatives with market parameters (personnel, technology, and consequence)	Provide feedback on interest in investing in these markets			
Evaluate alternatives				
Validate selected alternatives with consumers		Assist in validating alternatives	Assist in validating alternatives	
Maintain log of consumer contacts				

Table IV

Stage 3: Program Planning

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Write scope of work for diffusion				
Validate objectives		Assist in validating objectives	Assist in validating objectives	
Assist in estimating time required for development and scheduling activities				
Assist in developing multiyear Program Plan (MPP)				
Develop program budget (RAMP)				
Assist in synthesizing BPP and RAMP				
Review plans with funding source(s)	Review BPP and RAMP			
Maintain log of diffusion activities				

Table V

Stage 4: Product Design and Engineering

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Validate description of utilization of setting		Assist in validating setting		
Assist in designing system for validating performance objectives with small sample of consumers				
Validate developmental objectives		Assist in validating performance objectives		
Secure developmental copyright	Provide government copyright to protect investment			
Validate specifications with identified market		Assist in validating specifications by feeding back the current market readings	Assist in validating specifications	
Validate prototype program output with consumers		Evaluate prototype	Evaluate prototype	

Table V (Cont'd)

Stage 4: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Initiate contact with marketing agencies, if appropriate				Participate in awareness conference
Assist in preparing training and installation materials	Support the development of complete training and installation systems	Validate training and installation materials		
Identify criteria for selecting field test sites				
Select field test sites		Assist in selecting field test sites		Assist in selecting field test sites for market development
Announce selection of field test sites		Endorse field test		
Maintain log of diffusion activities				

Table VI

Stage 5: Field Testing

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Contact selected field sites				
Negotiate formal agreements		Formal agreements		
Assist in developing instrument for field test				
Install product at field test sites				
1) local publicity		1) Assist with publicity		
2) descriptive brochures for dissemination		2) Receive information	Support the initial information seeking, the trial and evaluation concerns	
3) awareness conference		3) Discuss informally		
4) arrange visits for potential users		4) Host visitors		
5) establish communication channel to potential consumers		5) Move to a trial stage		

Table VI (Cont'd)

Stage 5: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Train users at field test site		Participate in training		
Arrange for test administration		Assist with test administration		
Assist in preparing field test report		Assist in aggregating field test data		
Disseminate field test results	Receive results	Receive results	Receive results	
Establish linkages with various consumers		Co-sponsor awareness conference	Participate in awareness conference	
Validate revised program output with consumers		Assist in validating revised program output		
Maintain contact with marketing agencies	Provide guidelines for proposals	Written endorsements to marketing agencies		
Draft RFP's for commercial production	Approve RFP's			Formalize proposal
Assist in selecting marketing agencies				

Table VI (Cont'd)

Stage 5: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Negotiate contract with selected publisher				Formal contract
Identify operational test sites and demonstration sites		Recommend potential sites		
Assist in developing instruments for operational testing		Assist in developing instruments for operational testing		
Maintain log of diffusion activities				

Table VII

Stage 6: Operational Testing

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Contact operational test sites and demonstrations sites				
Negotiate formal agreements with operational test sites and demonstration sites		Formal agreements		
Install product at operational test sites and demonstration sites 1) initial publicity 2) brochures 3) awareness conference 4) arrange on-site visits 5) establish communication channel to potential consumers		4) Host visitors	4) On-site visit	Observe installation process, if appropriate

Table VII (Cont'd)

Stage 6: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Train practitioners at sites to use and evaluate program output		Participate in training		
Prepare written description of diffusion strategy	Supply diffusion guidelines			
Submit written strategy to program team	Approve diffusion strategy			
Create full-scale product information brochure				Assist in or create brochure, if appropriate -or-
	Receive brochures	Receive brochures	Receive brochures	Receive brochures
Maintain operational test agreements between the sites and the R & D agency				

Table VII (Cont'd)

Stage 6: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Assist in writing summative evaluation report		Provide data for report		
Review summative evaluation review		Review report		Review report, if appropriate
Validate program output with consumer		Review program output	Review program output	
Maintain linkages with various consumer organizations				Assist in maintaining linkages, if appropriate
Secure endorsement of influential persons and organizations			Endorse proven progress	
Contact for commercial production, distribution, and marketing of appropriate products				Have system geared for full scale diffusion marketing

Table VII (Cont'd)

Stage 6: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Develop and operate awareness conference for early adopter groups		Advertise and attend conference		Advertise and attend conference, if appropriate
Train linking advocates in consortium and universities				
Make personal contact with interested consumers				Advertise program output, if appropriate
Operate demonstrations of program output		Participate in demonstration of program output		Advertise demonstration sites, if appropriate
Coordinate visits to demonstration site		Advertise demonstration sites		Advertise demonstration sites
Train installation teams				
Maintain log of diffusion activities				

Table VIII

Stage 7: Implementation & Service

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Saturate consumers with product information brochures, if appropriate	Support full scale dissemination (advertising and selling)	Receive and distribute product information	Distribute product information	
Coordinate dissemination efforts with producer-distributor		Install program output	Coordinate promotion efforts	
Develop and operate awareness conference for late adopters		Attend conference (later adopter groups)	Use public opinion molders to move late adopter groups	
Utilize linking advocates in consortium and universities		Integrate training programs in on-going teacher and administrator programs		
Continue personal contact with consumers at trial stage			Provide salesmen to make personal calls Provide supporting information and servicing	

Table VIII (Cont'd)

Stage 7: (Cont'd)

R & D Agency Diffusers	Funding Agencies	Public Agencies	Marketing Agencies	Educational Agencies
Continue to operate demonstrations of program output	Adopting agencies provide support for demonstrations and trials.	Operate demonstrations		
Coordinate visits to demonstration sites		Visit demonstrations	Visit demonstrations	
Coordinate installation teams		Provide installation teams	Support adoption decision	
Provide maintenance support		Allow time for modifications		Provide warranty service
Provide consultant services	Support full institutionalization	Provide consultants and trainers to lower level adopting agencies (LEAs) (REAs)		Provide technical assistance in consultants
Maintain log of diffusion activities				

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APPENDIX

CATEGORICAL MAILING LIST

Code No.	Appalachia Educational Laboratory
1	AEL Membership
2	AEL Board Members (and former Board Members)
3	Professional Staff
4	Career Decision-Making Contacts
5	Early Childhood Education Contacts
6	Employer-Based Career Education Contacts
7	Educational Cooperative Contacts
8	Research and Evaluation Contacts
9	Diffusion Contacts
10	Administration/Management Contacts
	Business & Industry
11	Those working with AEL
12	Others Interested in Education
	Civic Groups
13	PTA Presidents
14	Chamber of Commerce
15	Labor Organizations (State and National)
16	Foundations, learned societies, leagues
17	This code is blank, as it was combined with Code No. 16
	Legislative Action Groups
18	Congressmen from the Appalachian Region
19	Congressmen from 7 AEL states only
20	U. S. Congressional Committee on Education & Labor
21	Chairmen, State Committee on Education (Senate & House); 7 AEL states only
22	State Legislators (7 AEL states only)
	Libraries
23	College and University(All within the 7 AEL states)
24	State Libraries (7 AEL states)
	Media
25	Radio (Selective; 7 AEL States)
26	Television (All, 7 AEL States)
27	Periodicals (Selective, 7 AEL States)
28	Newspapers (Selective, 7 AEL States)
29	Periodicals on exchange basis (National)
	National Change Agents and Other Research Agencies
30	Other Laboratories and R & D Centers (Director and

Information Officer)

31 Federal Offices (such as USOE, DRDR, OEO, etc.)
32 Professional Education Organizations (Selective; such as Rural Education Association, NAEYC, etc.)
33 Federal-State-Local Cooperative Agencies, such as the Appalachian Regional Commission

State Change Agents

34 Superintendents (county, city, local in AEL's region; State--all 50)
35 Directors of Instruction (state, county, local in AEL's region)
36 Professional Education Organizations (such as WVEA, TEA, etc. in AEL's 7 states)
37 College & University Presidents and Deans of Education (7 AEL states)
38 State Governor (7 AEL states)
39 State Government Agencies (7 AEL states)

NOTE: *AEL's Region* indicates the counties within the 7 states served by AEL only (such as Code 34)

7 AEL states indicates entire state (such as Code 37)

The second example is from The Center for Vocational and Technical Education. Here the focus is upon a specific subject matter area, vocational and technical education and the communications structure which has developed within that area.

1.0 National and Regional Leadership Groups

1.1 National Advisory Council for Vocational Education
1.2 U. S. Office of Education
- 1.21 Vocational and Technical Education
  - 1.211 Washington Officers
  - 1.212 Regional Officers
    - 1.2121 Regional Directors
    - 1.2122 Program Officers
- 1.22 Division of Equal Opportunity Personnel

1.3 Center Advisory Committee

2.0 State Leadership Groups

2.1 State Boards of Education--Chairmen
2.2 State Advisory Councils for Vocational Education
- 2.21 Chairmen
- 2.22 Executive Secretaries

2.3 State Boards of Vocational Education
- 2.31 Chairmen
- 2.32 Executive Officers

2.4 State Leaders of Education
- 2.41 Chief State School Officers
- 2.42 Supporting Staff
  - 2.421 Deputy Chief State School Officers
  - 2.422 Guidance Services Personnel
  - 2.423 Information and Dissemination Officers
  - 2.424 Other

2.5 State Leaders of Vocational-Technical Education
- 2.51 Directors of Vocational Education
- 2.52 Directors of Community-Junior Colleges

2.6 Supporting Staff--State Leaders of Vocational-Technical Education
- 2.61 Deputy Directors of Vocational-Technical Education
- 2.62 Other Supporting Staff
  - 2.621 Research Coordinating Units Directors
    - 2.6211 Research Coordinating Units Staff
  - 2.622 Program Planning and Evaluation
  - 2.623 Curriculum Development
  - 2.624 Facilities Planning
  - 2.625 Personnel Development and Teacher Education
  - 2.626 Manpower Training
  - 2.627 Special Needs
  - 2.628 Adult and Basic Education
  - 2.629 Other
- 2.63 State Supervisors of Service Areas
  - 2.631 Agricultural Education
    - 2.6311 Supervisor
    - 2.6312 Staff
  - 2.632 Business and Office Education
    - 2.6321 Supervisors
    - 2.6322 Staff
  - 2.633 Distributive Education
    - 2.6331 Supervisors
    - 2.6332 Staff

2.634 Health Occupations Education
2.6341 Supervisors
2.6342 Staff
2.635 Home Economics Education
2.6351 Supervisors
2.6352 Staff
2.636 Industrial Arts Education
2.6361 Supervisors
2.6362 Staff
2.637 Industrial Education
2.6371 Supervisors
2.6372 Staff
2.638 Technical Education
2.6381 Supervisors
2.6382 Staff
2.639 Trade and Industrial Education
2.6391 Supervisors
2.6392 Staff

3.0 Local Public and Private Leadership Groups

3.1 Comprehensive K-12 Educational Systems
3.11 Chief System Administrators
3.12 Supporting Staff
3.13 Chief Vocational-Technical Education Administrators
3.14 Supporting Staff
3.2 Specialized Secondary Vocational-Technical Systems
3.21 Chief System Administrators
3.22 Supporting Staff
3.3 Comprehensive Post-Secondary Educational Systems
3.31 Chief System Administrators
3.32 Supporting Staff
3.33 Chief Vocational-Technical Education Administrators
3.34 Supporting Staff
3.4 Specialized Post-Secondary Vocational-Technical Systems
3.41 Chief System Administrators
3.42 Supporting Staff
3.5 Other Educational Systems
3.51 Chief System Administrators
3.52 Supporting Staff

4.0 College and University Leadership Groups

4.1 University and College Leadership Personnel
4.11 Colleges and Schools of Education
4.111 Deans and Directors of Education
4.112 Supporting Staff
4.12 Other College and University Personnel
4.2 Departments of Vocational-Technical Education
4.21 Chairmen
4.22 Supporting Staff
4.221 Administration and Supervision Specialist
4.222 Research Specialist
4.223 Evaluation Specialist

- 4.224 Curriculum Specialist
- 4.225 Career Guidance Specialist
- 4.226 Media and Materials Development Specialist
- 4.227 Other

4.23 Service Area Departments of Vocational-Technical Education

- 4.231 Agricultural Education
  - 4.2311 Chairmen
  - 4.2312 Staff
- 4.232 Business and Office Education
  - 4.2321 Chairmen
  - 4.2322 Staff
- 4.233 Distributive Education
  - 4.2331 Chairmen
  - 4.2332 Staff
- 4.234 Health Occupations Education
  - 4.2341 Chairmen
  - 4.2342 Staff
- 4.235 Home Economics Education
  - 4.2351 Chairmen
  - 4.2352 Staff
- 4.236 Industrial Arts Education
  - 4.2361 Chairmen
  - 4.2362 Staff
- 4.237 Industrial Education
  - 4.2371 Chairmen
  - 4.2372 Staff
- 4.238 Technical Education
  - 4.2381 Chairmen
  - 4.2382 Staff
- 4.239 Trade and Industrial Education
  - 4.2391 Chairmen
  - 4.2392 Staff

4.3 Other Related Areas

- 4.31 Economics
  - 4.311 Chairmen
  - 4.312 Staff
- 4.32 Psychology
  - 4.321 Chairmen
  - 4.322 Staff
- 4.33 Sociology
  - 4.331 Chairmen
  - 4.332 Staff
- 4.34 Guidance and Counseling
  - 4.341 Chairmen
  - 4.342 Staff

5.0 Miscellaneous Groups

5.1 Professional Associations
5.2 Foreign Educators and Associations
5.3 Center Affiliated Personnel

- 5.31 Former Senior Staff
- 5.32 Former Research Associates/Assistants
- 5.33 Former Visiting Scholars (on Sabbatical)

- 5.34 Off-Site Center Staff _____
  - 5.341 Senior Staff _____
  - 5.342 Research Associates/Assistants _____
- 5.35 Other _____

5.4 Libraries
- 5.41 O.S.U. Libraries _____
- 5.42 University Research Libraries _____
- 5.43 Depository Libraries _____
- 5.44 Other Libraries _____

5.5 Private Groups
- 5.51 Health Organizations _____
- 5.52 Publishers _____
- 5.53 Other _____

5.6 Government Sponsored Educational Research, Development, and Dissemination Organizations
- 5.61 Research and Development Centers and Laboratories _____
- 5.62 ERIC Clearinghouses _____
- 5.63 Vocational Instructional Materials Labs _____
- 5.64 Regional Educational Service Agencies _____
- 5.65 Diffusion Research Groups _____
- 5.66 Other _____

5.7 Educational Placement Offices _____

5.8 EPDA Fellows _____

5.9 Miscellaneous _____

PROFESSIONAL JOURNALS AND NEWSLETTERS

Check those journals and newsletters which should receive a complimentary copy along with an invitation to publicize the document.

___Agricultural Education Magazine

___American School Board Journal

___American Vocational Journal

___The Balance Sheet

___Business Education Forum

___Business Education World

___Canadian Vocational Journal

___Counselor's Information Service

___DE Today

___Education and Training

___Education USA

___Educational Innovations

___Educational Leadership

___Educational Technology

___Highlights (Guidance - NY State Dept)

___Industrial Arts and Vocational Education

___Journal of Business Education

___Journal of Home Economics

___Journal of Industrial Teacher Education

___Junior College Journal

___NASSP Newsletter

___NCLA Newsletter

___Occupational Education Bulletin

___Personnel and Guidance Journal

___Report on Education Research

___School Management

___Technical Education and Industrial Training

___Technical Education News

___Training and Development Journal

___Others_____

_____

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_____

TOTAL _____

GLOSSARY

Adoption: That part of the diffusion process through which consumers decide to use a specific R & D program output.

Change: Any significant alteration in the status quo--an alteration which is intended to benefit the people involved.

Change Agent: A person who facilitates planned change or planned innovation. The paper is intended to be a manual for the change agent.

Change Process: The transfer of a new idea or technique from one cultural group or subgroup to another, as one type of diffusion. (Arensberg and Niehoff, 1971)

Client: A person, group, organization, or community which the change agent chooses to serve. Synonymous with consumer.

Client System: Equivalent to "client" but indicating the fact that the "client" is usually a group of people who are interrelated and at least partly interdependent.

Communications: The process by which messages are transferred from a source to a receiver. Four elements are present in any communication: (1) A source sends (2) a message via (3) certain channels to (4) the receiving individual.

Consumer: The group of individuals and/or organizations which is to receive and use the program output of educational research and development and is the target of dissemination messages.

Consumer Feedback: That part of the diffusion process which consists of one-way communication from the consumer to the program development team. That communication serves to sharpen the developer's perception of the consumer's need.

Diffusion: A special communication process by which innovations (products, program outputs) are adopted over time by members of a social system.

Diffusion Activity: Any activity which is necessary for a diffuser to complete which facilitates his communication with the members of the development program team, other development program teams, and other internal organizational roles and/or with the collective or individual consumer.

Diffusion Strategy: A planned sequence of validated diffusion tactics designed to influence the consumer's acceptance and adoption of a program output.

Diffusion Tactics: A specific diffusion activity intended to achieve the objective of moving consumers through one or more of the adoption responses.

Dissemination: That part of the diffusion process through which information about the program output, the R & D agency, and aggregated consumer feedback is communicated and gathered from consumers in order to (1) promote consumer awareness of and interest in specific R & D program outputs, and (2) induce consumer reactions to and/or adoption of those outputs. [2]The process whereby an innovation comes to be shared.

Dissemination Tactic: A specific diffusion tactic which is designed to communicate directly with the consumer.

Educational Development: That systematic process of creating and diffusing alternative products that will contribute to the improvement of educational practice.

Group Discussion: That form of discourse which occurs when two or more persons, recognizing a common problem, exchange and evaluate information and ideas in an effort to solve that problem. Their effort may be directed toward a better understanding of the problem or toward the development of a program of action relative to the problem.

Informed Consumer: A consumer who understands the program output developed by the R & D agency.

Innovation: [1]The process whereby a new element of culture or combination of elements is made available to a group. [2]Any change which represents something new to the people being change. For example, a kindergarten is an "innovation" to a school system which has not had one heretofore. Innovation will also mean a change which benefits the people who are changed.

Innovation Process: How the change or innovation comes about. The paper is about a specialized process diffusion.

Integration: The process whereby an innovation becomes mutually adjusted to other elements in the system.

Marketable Process: A program output which (1) is a set of operations and procedures, (2) is designed to be adopted by an organization, (3) is produced in such a form that consumers may adapt it to the needs and constraints of their specific setting, (4) is usually installed with assistance from outside specialists, and (5) includes guidelines or manuals instructing users in installation and maintenance options.

Marketable Product: A program output which is (1) a self-contained, transportable package such as a textbook or filmstrip, (2) designed to be adopted by organizations or individuals, (3) produced in such a form that consumers may adopt and install it as is with only minor adaptations, and (4) self-installable or includes complete instructions for installation.

Marketing: A process involving the total of activities by which an R & D agency's program output is conceived, developed, promoted, physically distributed, and finally adopted by the consumer including necessary service activities. "Marketing" is synonymous with "educational development".

Medium: The tool, device, or occasion used as a vehicle for transmitting a message.

Planned Change: Change or innovation which comes about through a deliberate process which is intended to make both acceptance by and benefit to the people who are changed more likely.

Planned Innovation: Change or innovation which comes about through a deliberate process which is intended to make both acceptance by and benefit to the people who are changed more likely.

Problem-Solving: The process by which clients or users satisfy their needs. The process of planned innovation is one form of problem-solving.

Products: Exportable methods and/or materials which, when used as prescribed, will produce specified outcomes with designated target populations. Completed products have been sufficiently tested so that outcomes are reliably achieved in comparable natural settings. Synonymous with program output.

Program Output: The marketable outcomes of systematic research and development activity.

Resources: Persons or things which can be used to improve an innovation or an innovative process. Resources may be available both inside and outside the client system.

Resource Person: (also "Resourcer"): A person who is a resource or who is a provider of resources. The change agent is one type of resource person.

Resource System: An interrelated set of people and organizations capable of providing resources. For example, a state university which provides field services, extension courses, and pre-service and in-service teacher training is a resource system for the school districts of the state.

User: Anyone who uses resources in attempting to solve his problems; equivalent to client or consumer.

User System: An interrelated group of users; equivalent to client system or consumer.