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ABSTRACT

A summary of a two-day conference held in September, 1973 is presented. The meeting was convened by the Planning and Policy Analysis Unit of the National Institute of Education (NIE); its purpose was to bring NIE staff together with developers, publishers, attorneys, and educators to develop input for a position paper on dissemination and copyright policies which the NIE staff was preparing for its National Council. The agenda included the following topics: 1) copyright models; 2) copyright policies; 3) effective use of materials; 4) educating users; 5) developers as distributors; 6) distributors as developers; 7) special products; 8) clearinghouse functions; 9) evaluation, review, and revision; and 10) royalties. The conference report first presents a conceptual framework for the related tasks of research, development, evaluation, demonstration, distribution, and implementation and then articulates seven principles upon which dissemination and copyright policy can be based. A total of 63 applications based on these principles and designed to produce more effective widespread use of NIE-sponsored products concludes the report. (PB)

Conference Report

DISSEMINATION OF NIE-SPONSORED PRODUCTS

Henry Chauncey Conference Center
Princeton, New Jersey
September 6-7, 1973

submitted by

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Description of the Participants

National Institute of Education. NIE is the research and development agency for the field of education of the U.S. Department of Health, Education and Welfare. Created by Congressional enactment in 1972, NIE is intended to become for education what the National Institute of Health has become for the medical sciences.

The NIE Planning and Policy Analysis Unit is currently concerned with the development of olicies to promote the widespread effective use of NIE-sponsored products.

Developers. The developers invited to attend the conference represented non-profit organizations which have had substantial experience with large-scale curriculum development projects in education and with promoting the widespread effective use of the products emerging from those projects. All the participating developers represented agencies which have established relationships with commercial publishers both in the development and the distribution of educational products.

Publishers. The publishers invited to attend the conference represented institutions in the private sector which have had substantial and varied experience in the design, distribution, installation, and maintenance-and-use of educational products. The representatives came primarily from publishing firms which have had substantial prior experience with educational products sponsored by NIE, USOE, and other government agencies.

Attorneys. The attorneys invited to attend the conference represented the larger group of attorneys who specialize in copyright law.

The representatives have had considerable experience in working with developers and/or publishers of government-sponsored educational products or have studied the practices and the effects of the copyright regulations employed by various goverument agencies.

The Institute for Educational Development. IED is a non-profit educational research and development organization located in New York City and affiliated with Educational Testing Service of Princeton, New Jersey. IED was originally conceived as a new instrument for "closing the circle" between education, industry, and government. The management of this conference by IED under contract with NIE is illustrative of IED's interest in facilitating relationships between education, industry, and government.

Invited Guests. The guests invited to attend the conference represented Educational Testing Service, a non-profit organization which both develops and publishes products on a large scale. The ETS guests, although not asked to interact as representatives of either the developer or publisher community, were invited to participate on topics as they saw fit.

Purpose of the Conference

The staff of the NIE Planning and Policy Analysis Unit opened the Conference by explaining why the participants had been called together. They said that the recently appointed NIE National Council had not yet established a dissemination policy for the agency. Meanwhile, since its creation in the summer of 1972, NIE has patterned its dissemination and copyright practices after those of the U.S. Office of Education. But with the appointment of the National Council, it is now not only feasible but also necessary for the NIE staff to formulate and present a comprehensive dissemination and copyright policy for consideration and adoption by the Council.

The staff of the NIE Planning and Policy Analysis Unit has been engaged for the past several months in drawing up a major policy paper on dissemination, a paper now in its final stages and shortly to be submitted to the National Council. The staff explained that the participants were being asked to deal with matters of copyright, product evaluation, distribution of materials through commercial and non-commercial channels, royalty sharing, and related dissemination issues. The staff said that the recommendations arising from the conference would be incorporated into its dissemination policy paper for submission to the National Council.

The NIE staff observed that, as a research and development agency, NIE was deeply concerned about the impact of research and development on the improvement of school practice. They reported that they could find very little empirical research to allow a reliable estimate of the impact of research and development activity, particularly effective

implementation in contrast to mere adoption. They said that regardless of the past impact of research and development on school activities, the constituencies of NIE expect future investment to result in greater impact than past investment. And they said that their objective in sponsoring the conference was to draw advice from major research and development organizations, and educational publishers, and copyright attorneys on how to achieve that greater impact through the widespread effective use of NIE-sponsored products.

Procedures of the Conference

The conference was held Thursday, September 6 and Friday, September 7, 1973, at the Educational Testing Service Henry Chauncey Conference Center in Princeton, New Jersey. The conference began at 9 a.m. Thursday and was adjourned at 5 p.m. Friday.

The conference agenda was organized around the following ten topics on which NIE was seeking advice:

1. Copyright model
2. Copyright policy
3. Effective use of materials
4. Educating the users
5. Developers as distributors
6. Distributors as developers
7. Special products
8. Clearinghouse functions
9. Evaluation/review/revision
10. Royalties

In order to discuss thoroughly and make recommendations on ten topics of such wide scope in two days, the conference participants approached the topics as members of the following groups:

Group	Participants	Topics	
		Sept. 6	Sept. 7
Total Group	All Conference Participants	1 and 2	9 and 10
Group A	4 Publishers 4 Developers 1 Attorney	3	7
Group B	4 Developers 4 Publishers 1 Attorney	4	8
Developers	All Developers	5	
Publishers	All Publishers	6	

One member of each small group acted as moderator. The moderator formalized the recommendations of the small group sessions for later presentation to the large group.

After the small group sessions, all participants reconvened, and the moderators reported summaries of the recommendations to all participants. Following the moderators' reports, all participants discussed further the topics under consideration.

After the conference was formally adjourned, the two moderators worked with the conference chairman and with other IED staff to consolidate the findings. NIE representatives were present during this work session and contributed again to the NIE perspective and its long-range objective.

Thus, the content contained in the recommendations section of this report has, to a large extent, been shared with, as well as confirmed by, representatives of the publishers and developers and NIE personnel from the Planning and Policy Analysis Unit.

Recommendations

The recommendations made by the participants cannot be understood without sharing the conceptual framework which they held and used during their discussions. That framework was not presented at the opening of the Conference and was not fully articulated during the Conference proceedings. Nonetheless, when the two moderators convened with the conference chairman to assemble the recommendations, it became apparent to them that a conceptual framework had been used more or less consciously by the participants. Moreover, the two moderators and the chairman felt that the conceptual framework could be used to explain why the participants thought what they thought. Thus they decided to articulate that framework in the conference report, although it was never fully elaborated during the Conference itself. Accordingly, the following section contains the framework which moderators and the chairman felt became evident during the Conference. The reader should remember that this framework was never presented to the participants and does not necessarily carry their endorsement.

Explanatory Framework

When a significant amount of Federal funding first became available for educational innovation in the mid-1950's and the NSF-led curriculum reform movement got under way, it became timely to give systematic thought to what the processes of school change actually entailed. Scholarly thought on the subject had not been especially fertile for the previous 15 to 20 years and there had been few highly visible phenomena which need d to be explained. But the emergence of the well-financed NSF course content improvement projects of the mid-1950's represented a distinctively new

kind of organized intervention into the instructional processes of the schools. Intervention on that scale stimulated thought and drew wide comment. Was the course content improvement effort well conceived? Were the right people in charge? Did it illustrate the proper relationship between university scholars and classroom teachers? Were the products worth what they cost? Were the products superior to what was already available to the schools through commercial channels? How should the products be distributed? And so on.

Most of the commentators identified and distinguished between various functions in the school improvement process. The NSF groups were developing new curriculum materials and teaching procedures. They were not conducting research; they were not evaluating their products (in any rigorous sense); they were not distributing them; they were not training teachers to use them. They were engaged in development, a single, identifiable function. It was obvious that performing a single function could not guarantee school improvement. Other activities were needed as well. They might be conducted before, during, or after one another, but they all had to be conducted.

Past. One attempt to bring order to these various functions was to arrange them in a chronological, linear order: first research would be conducted, then development would take place, then evaluation could occur, followed perhaps by demonstration, then by distribution, and finally by implementation. This serial arrangement afforded a rational "model" of how school improvement functions might be or should be carried on. The model assumed--or stipulated--that the action would move in one direction: from research to implementation. It suggested that developers would get

their assignments from researchers, that evaluators would assess the products of developers, that demonstrators would display validated products, and so on. It clearly suggested a division of labor, with different functions perhaps assigned to different personnel and with different functions perhaps conducted in entirely different institutional settings. It implied a centrally-conceived plan for the creation and use of knowledge by converting it into practical forms and distributing those new forms widely. It assumed that there would be central attention to the life history of a product, with management overview to make certain that each product moved along its scheduled series of steps in linear fashion, unless aborted for good reason. It implied that each separate function might be funded as well as conducted separately.

Finally, it appeared to say that the schools which would use the product would not appear on the scene until the product was being distributed: their role would be to adopt it or adapt it.

By the early-1960's, this particular idealized model of the school improvement process was being used to guide government thinking about the improvement of education, especially the thinking of the U.S. Office of Education. The literature and the oral explanations accompanying the creation of the university-based research and development centers and, a bit later, the regional educational laboratories, clearly owed something to the linear model of school improvement through the application of scientific processes. During that period, professionals thought about the role of the commercial publishers and associated them with the final stages of the school improvement processes: namely, the distribution of the products of development--products which the publishers themselves

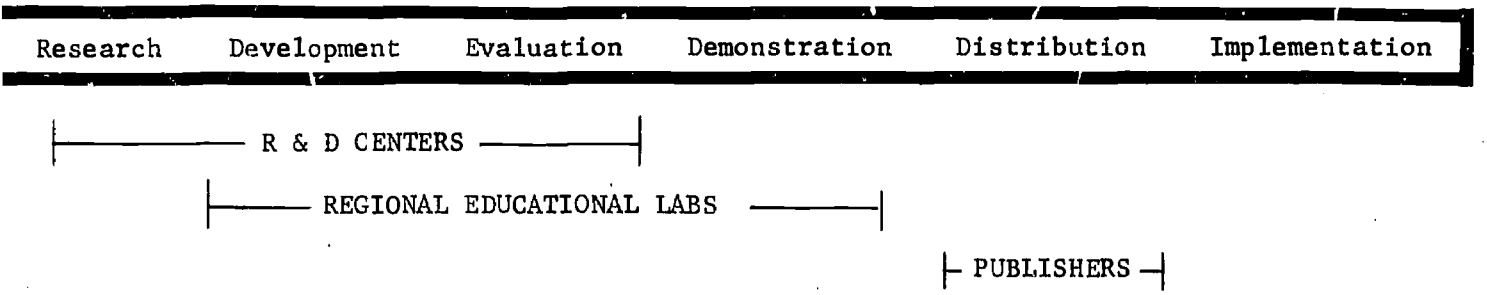
had not helped developed. There was, of course, general recognition that publishers had traditionally been engaged in development. But the single authorship and small-group authorship of commercially-published products in single-medium form was a pale contrast to the organized, systematic, prestigious development of the kinds sponsored by NSF and hoped-for by USOE. Thus, the commercial publishers were given little credit for their development activities.

An over-simplified sketch of the linear model of school improvement, showing the projected roles of centers, labs, and publishers,appears on the following page, with the caption PAST.

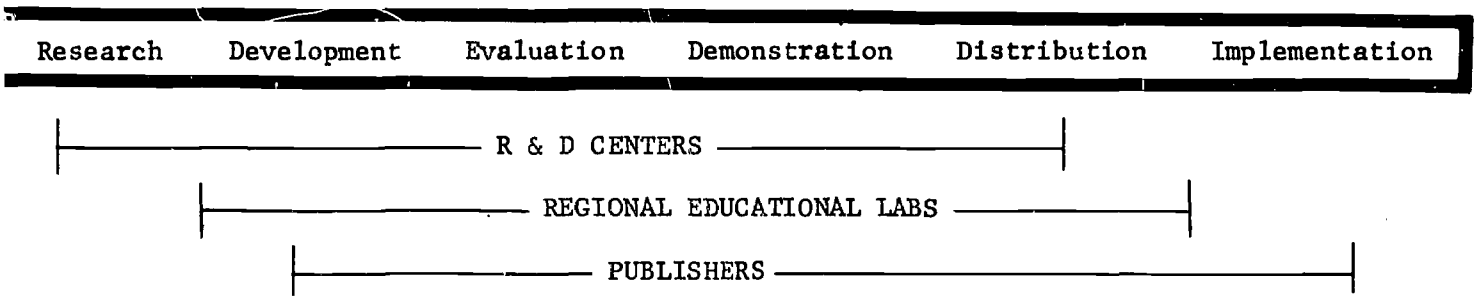
Present. More than a decade has passed since the linear model was articulated and came to be widely discussed. In the intervening years, a shifting pattern of activity along the supposed continuum has taken place. The USOE-sponsored university-based research and development centers, partly in response to government pressure, tried to translate their research findings into usable products. When they succeeded in doing that, they tried to get those products tested and distributed for use by schools. This observation does not apply to all university-based centers, but to so many that, as has often been observed, the distinction between those centers and the regional educational laboratories came to be blurred.

Meanwhile, the regional educational laboratories, which had started further "downstream" in the linear model than the research and development centers, moved even further downstream. That is, they began to move their products into actual distribution, creating networks of schools not only to test their products but also to demonstrate them and to train users.

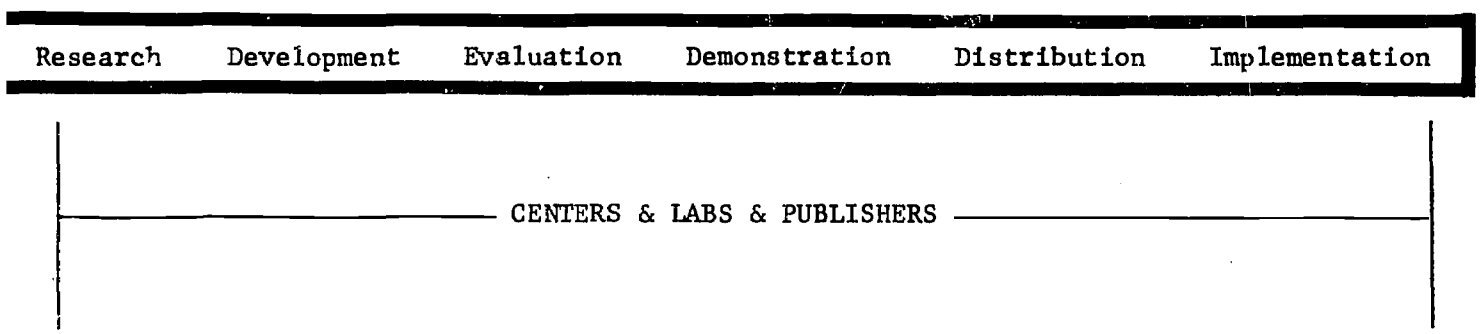
PAST



PRESENT



FUTURE



Some of the laboratories became their own distributors, especially for thin-market products which were not accepted into commercial channels. Because some of their products were highly engineered, the laboratories followed them into the early implementation stage to make sure they were used as intended. Some laboratories ran large-scale training programs.

Meanwhile, the publishers began to stretch their span of activities "upstream" in the linear model by paying more attention to product development, evaluation, and demonstration. For some publishers, these moves were modest and represented little more than employing the alumni of government-sponsored projects as individual authors, but for others it meant producing multiple copies of products for field testing, using the new curriculum content produced by the NSF-sponsored groups as material for their own publications, becoming concerned about the effective implementation of the more complex instructional systems they were beginning to market, and in other ways demonstrating a concern about the kinds of activities the research and development centers and regional educational laboratories were engaging in.

By the present time, the relation of centers, labs, and publishers to school improvement functions can be envisioned as shown in the chart on the previous page, under the caption PRESENT.

Future. By 1980, as these trends continue, it can be expected that the functional distinction between centers and labs in the public sector and publishers in the private sector will have faded if not disappeared altogether. Each kind of institution can be imagined as not only concerned about all school improvement functions, but as able to do something about them. Each kind of agency will concentrate on selected functions

but will have capacity to conduct related functions. Agencies which do not have the capacity in-house will enter into collaborative arrangements with agencies that have complementing specialities. These combinations of agencies will have full-range capability. In some cases, one may expect a powerful center or laboratory to acquire a commercial publisher or simply to create its own publishing house. In other cases, one may expect a powerful commercial publisher to acquire a center or laboratory or simply to create an equivalent institution within its own corporate structure. The net effect of all this will be that each agency can, alone, or in combination with others, conduct all school improvement functions.

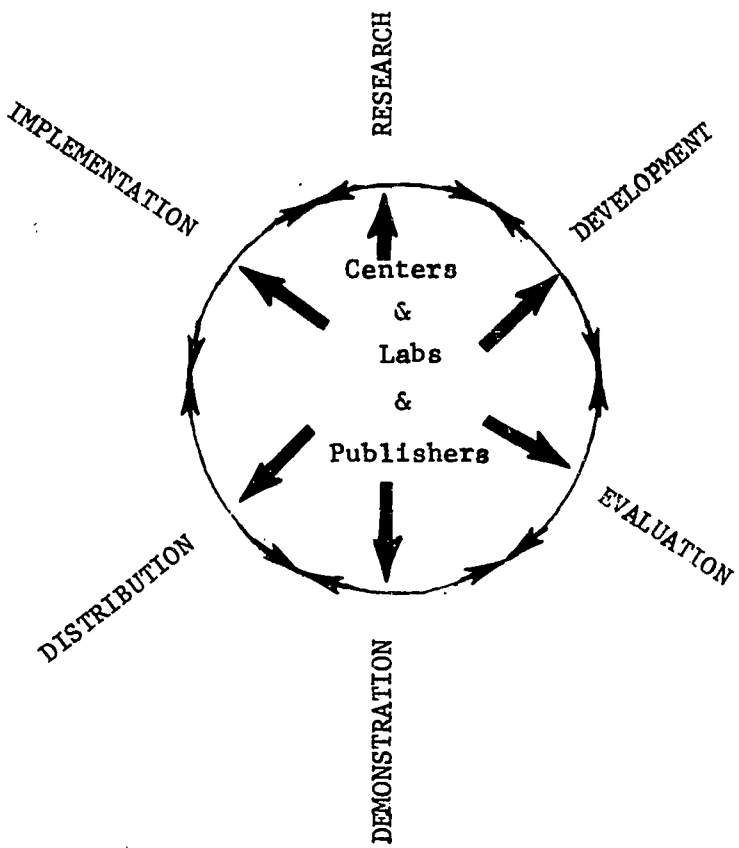
This view of the future is simply sketched in the chart presented earlier under the caption FUTURE.

Another kind of movement during the decade has posed a different challenge to the linear model of research and development. Continued scholarly discussion has pointed to other models of school improvement, models that do not differentiate the functions as sharply as in the linear model, that do not attempt to place them in chronological sequence, do not envision them as linear, see the results of any one function as able to influence the conduct of any other function, question the division of labor among the functions, suggest that the functions may move on parallel tracks with internal guidance systems, jettison the idea of overall management of the life history of a product, question the separate funding of each function, and in other respects challenge the intellectual integrity of the model, challenge its utility for describing school improvement processes and express doubt about its value for prescribing a grand intervention strategy for school improvement.

The combined effect of the shifting pattern of activity along the supposed continuum envisioned by the linear model and the intellectual and empirical challenges to the accuracy of that model is to suggest a far less rigid sequencing of steps and differentiation of function, as depicted in simplified form in the chart on the following page. This model assumes that there is no set chronology, no linearity, no one-way traffic of ideas, influence, or products, no successive pattern of problem assignment by one functionary to the next, no orderly division of labor or distinction among laborers, no specific institutional settings for specific functions, no centrally-conceived plan for creating knowledge and converting it into practical use, no fixed series of steps through which a product must go, and no separate funding for separate functions.

This model encapsulates the conceptual framework used by the participants at the conference. It says that they did not find sharp distinctions between research and development and related functions to be especially useful and, more particularly, that they rejected the proposition that school improvement functions could be sorted out for assignment to one type of agency rather than another. The participants recognized that they were reaching into the future, describing themselves as they might look in 1980. They recognized, and freely admitted, that the future model does not fit current practice. However, they said they believed that the field is decidedly in transition at the present time and that the next decade will see substantial changes in the way they are organized to participate in research, development, and related functions.

Had this conceptual framework been used at the beginning of the conference, it would have allowed the two moderators and the chairman to predict rather than simply to record some of the proceedings. For


RESEARCH
DEVELOPMENT
EVALUATION
DEMONSTRATION
DISTRIBUTION
IMPLEMENTATION
Centers
&
Labs
&
Publishers

example, when the developers were asked whether they should publish their own products and when the publishers were asked whether they should develop their own materials, they both said, "yes", as could have been predicted by using the model. That is, they objected to limiting their agencies to any particular function and were ready--at least at the conceptual level--to move into each other's traditional territory.

Specific Recommendations

> These recommendations are written as they would have been spoken by the participants if they had had a single voice. While not all participants have reviewed this recounting of their advice to NIE, one representative of the developers and one representative of the publishers have reviewed them and believe that they are an accurate rendering of that advice.

Objective: Widespread Effective Use of NIE Products. We understand that NIE is interested not merely in school adoption of NIE-sponsored products, but in their widespread effective use. The term "widespread" means the use of the products in all or most of the settings for which they are suitable; the term "effective" means the proper use of those products, including thoughtful adaptation to meet local circumstances, even where such use differs from that intended by the product developers.

All of our recommendations are intended to lead to the widespread effective use of NIE-sponsored products and other products of comparable quality. We have carefully and specifically rejected alternative

recommendations which would impede such widespread effective use and we have avoided recommendations intended to accomplish other objectives. That is, we have deliberately guided our thinking by what would be required to achieve the objective explained to us by NIE representatives at the opening of this Conference.

Principles, Applications, and Examples. We offer our recommendations in the form of principles, the application of those principles, and specific examples of those applications. The set of principles may be incomplete; NIE may need to derive additional principles by studying this set while keeping its general objective in mind. The set of applications of these principles is certainly incomplete; NIE will need to derive additional applications by studying these applications while keeping the set of principles and its general objective (widespread effective use of NIE-sponsored products) in mind. Finally, the set of examples is merely illustrative; NIE can and should supplement them.

Principles

NIE should base its dissemination and copyright policy on these principles so as to bring the activities of product creation and product implementation into harmony:

A. Interrelate the functions of development/distribution.

B. Minimize restrictions on the behavior of developers/distributors.

C. Maximize opportunities for new behavior by developers/distributors

D. Design and continuously modify copyright policy to interrelate development/distribution, and to minimize restrictions and maximize freedom for developers/distributors.

E. Use positive rather than negative incentives.

F. Use positive rather than negative rewards.

G. Reward successful behaviors on the part of developers/distributors rather than punishing unsuccessful behaviors.

Applications and Examples

NIE should adopt these applications of the above principles:

Copyright Model

1. Manage the incentives and rewards NIE makes available to developers/distributors rather than either a) using fixed, rigidly-applied incentives or rewards, or b) adopting a laissez-faire policy in which developers/distributors create their own incentives and seek their own rewards.

   Example. Examples of how an incentive-management model can be employed to accelerate the widespread effective use of NIE-sponsored products appear in the items which follow.

2. Demonstrate, create, or subsidize markets for NIE-sponsored products.

   a. Demonstrate the existence of a market before inviting distributors to handle the product.

      Example. Conduct a careful market survey to indicate probable adoption rates of a product if commercially-distributed within a specified price range. Identify the numbers, types, and locations of schools likely to purchase the product and identify the current products which the new product would probably replace, as judged by local school personnel.

b. Where a market cannot be demonstrated, create an initial market before inviting distributors to handle the product.

Example. Pay the developer to make an initial installation of the product in a selected number of schools, on the condition that they agree to 1) demonstrate the product to neighboring school districts, and 2) continue the use of the product by purchasing replacement materials through commercial channels after the initial supply of materials has been exhausted.

c. When an initial market can neither be demonstrated nor created, subsidize the distribution of a product until either 1) an initial market has been created, or 2) it becomes apparent that a market cannot be created for non-subsidized distribution of the product.

Example. Serve as a guaranteed purchaser of last resort for the first 10,000 copies of a product to protect the distributor against loss when he agrees to handle a product for which no market has been either demonstrated or created.

d. When a non-subsidized market cannot be created but the product is addressed to a problem of such social significance that its continued distribution is nonetheless warranted, continue subsidized distribution at least until a non-subsidized product of equivalent quality becomes available.

Example. Pay fifty percent of the development/distribution costs of a product throughout its market life or until an equivalent product comes on to the market at a non-subsidized price comparable to the subsidized price.

3. Offer incentives and rewards to developers/distributors for sharing the costs of development/distribution with NIE.

   Example. Allow full-term copyright on the total product if at least fifty percent of its cost has been borne by the developer.

   Example. Authorize royalty-free contracts with distributors who agree to pass the royalty savings on to the schools purchasing the product.

4. Offer incentives and rewards for cooperative arrangements between agencies that specialize either in development or in distribution.

   Example. Issue Requests for Proposals which limit eligible bidders to cooperating agencies that agree to handle the product from inital development through broad-scale distribution.

5. Offer incentives and rewards for agencies which specialize either in development or distribution to extend their internal capacity for handling the missing function.

   Example. Give favorable consideration to bidders who have developed the internal capacity for handling the full array of functions from product development to broad-scale distribution.

6. Vary royalty sharing in writing contracts with developers.

   Example. Pay an above-average royalty share to developers who agree to make a systematic evaluation of the product once it goes into general use and to revise and re-issue it based on that evaluation.

7. Vary royalty rates in writing contracts with distributors.

   Example. Authorize below-average royalty rates to be paid by distributors who agree to supply training to all those who adopt the product.

8. Extend copyright for developers/distributors who are accomplishing widespread effective use of a given product.

   Example. Authorize short-term extensions of copyright, reviewable and renewable every three years, for developers/distributors who can file reports by NIE-approved third-party evaluators that a randomly-chosen sample of those who adopt the product are using it either as the developers intended or with sensible local adaptations suggested by the distributors themselves.

9. Do not place any product in the public domain until after gathering clear evidence that such placement will increase the widespread effective use of the product.

   Example. Produce the names of three distributors who are prepared to guarantee in writing that they will publish and actively distribute a specified number of copies of a given product as soon as its copyright is allowed to lapse and it is placed in the public domain.

Copyright Policy

10. Establish and publish formal copyright guidelines that are specific enough to allow developers/distributors to predict what NIE might do in given future instances but are general enough to allow for flexibility. Establish and publish in the guidelines the criteria NIE will use in making exceptions to its established policy and give examples of approved exceptions.

    Example. Stipulate the typical royalty-sharing arrangement NIE intends to establish with its contract developers, then indicate the conditions under which the ratio will be adjusted for developers who undertake specific acts to enhance the widespread effective use of NIE products.

11. Have the guidelines explain NIE's interest in widespread effective use of the products it sponsors and state that the pursuit of this objective overrides any specific limitations in the established guidelines.

    Example. Publish the customary initial copyright term allowed for products developed under NIE-sponsorship, then give advice to developers/distributors on how to write successful applications for copyright terms which are longer, indicating how they will insure widespread effective use of NIE products, thanks to the greater protection of longer copyright terms.

Effective Use of Materials

12. NIE should construe "proper use of materials" to mean "effective use" rather than "use as intended" by the original developers.

    Example. Incentives should be given to the developers to create specific techniques for guiding local school personnel in adapting products to local circumstances.

13. NIE should be concerned not only about NIE-sponsored products but about the widespread effective use of other worthwhile products as well.

    Example. NIE should sponsor the creation of training programs which are not product-specific but which teach skills common to the classroom use of several products of a given type, products including those developed by NIE and those developed by other agencies.

14. Investigate the possibility that product-related teacher training is more effective than product-free teacher training.

    Example. Follow-up recent research indications that a teacher's classroom performance can be more readily improved by developing his skill in the use of a specified product rather than giving him training at a more general level. NIE should conduct a thorough investigation of this issue, since it has many implications for the design of teacher training programs.

15. Recognize that educational products are increasingly being produced in the form of complex systems designed to be used and maintained over a period of time. Adopt a differentiated policy concerning the proper use of materials, giving more attention to complex systems where more skill is needed.

    Example. In selecting products for experimental studies on distribution techniques, as recommended below, chose the more complex systems rather than traditional textbooks.

16. Recognize that there is currently no satisfactory technique for validating educational products. Therefore "effective" use cannot be empirically investigated and established. Use validation techniques that reflect the current state of the art.

    Example. Use trained judges to observe the classroom performance of the educational products rather than relying exclusively on student test scores.

17. Conduct research on the effects of local curriculum modification.

    Example. Investigate the widely-asserted claim that local adaptations are often unwise, senseless, or accidental rather than being an intelligent adaptation of the product to local circumstances.

18. Conduct research on the classroom fate of materials which had been deliberately designed for local adaptation.

    Example. Conduct a series of experiments in which semi-finished products, designed so that the products must be completed by local personnel prior to use, are installed in schools to determine the quality, diversity, and usefulness of the locally-developed components of the semi-finished products.

19. NIE should experiment with staff development centers involving teachers, parents, administrators, community personnel and paraprofessionals.

    Example. NIE should create a number of local teacher centers financed to concentrate on staff development, differing in their level of funding, governing structure, training techniques, clientele, duration of training given, time schedules, and so on to identify the best institutional forms for this kind of function.

20. Experiment with various means of dissemination and implementation, and document the effectiveness of the experiments.

    Example. Investigate the workings of teacher trainer arrangements which are one hundred percent teacher controlled to determine whether the development experiences teachers select for themselves differ significantly from those that would have been planned for them by their administrators.

21. Publishers should be financed to validate their products but should be obligated to publish the findings.

    Example. Funds should be made available to publishers to employ third-party evaluators to appraise their products in a search for revision ideas as well as validation data; the findings should of course be published.

22. Conceive of implementation as a function which involves not only local school systems assisted by developers/distributors, but community groups, state departments of education, and other such organizations and agencies whose actions impinge on school improvement.

    Example. Train curriculum leaders in state education departments to understand the distinctive characteristics of new NIE-sponsored products and encourage them to modify any state regulations that will impede the widespread effective use of such products.

Educating the Users

23. Recognize that "training" is too narrow a concept to reflect adequately the complexity of the process that developers/distributors must be concerned with. Terms such as "staff development" or "system support" are better to suggest the kind of institutional adaptation that NIE must be concerned about in seeking the widespread effective use of the products it sponsors.

    Example. Building local public support for the adoption of a particular innovation may have to concern NIE fully as much as training classroom teachers. In such cases, when NIE contracts for product development it should contract for the creation of materials and procedures for explaining the product to the community.

24. Recognize that staff development is critical to the proper implementation of most but not all innovative products.

    Example. Avoid investing in staff development materials and procedures for products which classroom teachers can use with skills they already have and which the institutional and community environment surrounding the classroom will accept without question.

25. Experiment with staff development as a way of creating user demand for change and new types of products.

    Example. Support pilot projects which sensitize teachers to the enormous variation in initial knowledge of students in their classrooms so that they will seek products which come equipped with diagnostic instruments for profiling the students' knowledge in advance of instruction so that the teachers will know how to differentiate their treatment of individual students.

26. Experiment with staff development as a technique for discovering and conceptualizing user needs.

    Example. Train teachers in self-diagnosis so that they can identify and report (in a non-threatening atmosphere) the skills they lack. A compilation and mapping of the missing skills can stand as a set of specifications for instructional products and/or teacher training products that need to be developed.

27. Avoid developing products that require training for successful implementation if there is no foreseeable mechanism for conducting the required staff development.

    Example. Do not commission the creation of semi-finished products which require either in-depth substantive knowledge or an extraordinary knowledge of instructional design of the classroom teachers expected to complete those products unless it is reasonably clear how the necessary training in substance and in methods could be supplied to those teachers.

28. Conduct research and experimentation to find methods of avoiding the typically high expense of staff development.

    Example. Sponsor the creation of self-instructional products for students that require a minimum of teacher intervention and thus make staff development less necessary.

    Example. Sponsor the creation of materials and procedures for training teachers in broad-gauge skills needed to use an array of products, thus avoiding the necessity of product-specific training.

29. Conduct research and experimentation to determine what kinds of items can be effectively distributed and implemented by training the trainers of teachers with NIE-sponsored materials and procedures rather than training classroom teachers directly. Watch for differences in product characteristics, trainer characteristics, training arrangements, techniques of supervision for quality control and variations in local circumstances which may condition whether second-generation training of third-generation training (successive waves of trainers training other trainers) will be as effective as first-generation training.

    Example. Arrange for the training of publishers' representatives engaged in the distribution of NIE-sponsored products and evaluate their effectiveness in transmitting what they have learned to curriculum leaders and staff developers in local school districts which adopt those products.

30. Rather than assigning royalties to developers or retaining them for the U.S. Treasury, allow developers/distributors to devote them to future training.

    Example. Contract with the developer of a given product to retain one hundred percent of earned royalties on condition that they be used to train curriculum leaders and staff developers in local school districts adopting the product.

31. Conduct research and experimentation to determine how to leverage other funds into staff development, saving NIE funds for research and development activites.

    (This recommendation out ranks all earlier recommendations dealing with how NIE might reduce the expense of educating the users. It should be given top priority.)

    Example. Sponsor the installation of PPBS (or some other accountability system) to induce local school officials to spend local funds for staff development. Introducing an accountability scheme will require local districts to initiate staff development in order to accomplish the installation; upgrading the system will reveal the need for new instructional products which will also require staff training, hopefully at local expense.

32. Recognize that product developers, product distributors, teacher-trainer institutions, and for-profit or non-profit training agencies as well as local schools themselves can supply training. (Many products will require training efforts by all these parties.) Conduct research and experimentation to find the best mix of agencies for various types of products and various circumstances.

    Example. Select a given product and assign training responsibilities to different kinds of agencies to find which can carry out the most cost/effective procedures.

    Example. Try different configurations of the agencies, assigning pre-service training to one, installation to another, continuing supervision/refresher training to another, and so on to establish desirable mixes.

33. When negotiating a contract for product distribution, make quite clear the type of support the government will ultimately provide for dissemination/training. Do not lead distributors into expecting windfalls resulting from possible later dissemination training funding or vice versa.

    Example. Provide contract options to be exercised in case the government makes separate dissemination funding available after the contract is negotiated, as by stipulating upward adjustments in royalty rates, or downward adjustments in profit margins or shortening of copyright terms. Conversely, if later dissemination funding is anticipated, build options into the contract to offset losses to the distributor if it is not supplied.

34. Do not attempt to restrict product use to users who agree to accept prescribed training. In general, this approach cannot be expected to prevent users from acquiring and employing products for which they are untrained.

    Example. Do not support the creation of a complex system with minimal tolerances for proper use on the assumption that its distribution can be limited to trained users. Instead, when there is no foreseeable way of supplying the necessary training to all interested users, avoid creating training-sensitive products.

35. Conduct research and experimentation to determine what kinds of training and related dissemination techniques work best with what kinds of products in what kinds of situations.

    Example. Select a given product and vary the training techniques used to install it in a set of comparable circumstances to identify the most cost/effective technique.

Developers as Distributors

36. Recognize that there are different kinds of products (for example, complex instructional systems vs. single pieces of printed material) and that each kind requires different patterns of support to accomplish distribution. Expect developers to be able to find suitable commercial channels for traditional products without the need for special NIE assistance.

37. Make commercial publishers the first-choice distributors for materials developed under NIE sponsorship.

    Example. Offer commercial publishers an opportunity to bid on the distribution of NIE-sponsored products before subsidizing non-profit developers to distribute them, before using the Government Printing Office as a publisher, and before placing them in the public domain.

38. Encourage and assist developers to establish a publishing cooperative for the distribution of materials in which commercial publishers show no interest. The cooperative should be designed both to provide technical assistance to developers in finding commercial publishers for their hard-to-market products and to handle the actual publication and distribution of those products when commercial channels are not available.

    Example. Grant funds to the cooperative for conducting research to establish what characteristics of educational products make them hard to market and thus unpalatable to commercial publishers.

39. Encourage proposals for product development/distribution sponsored jointly by non-profit developers and commercial publishers.

    Example. Stipulate in the Request for Proposal for the creation of a given product that developers who have already identified a publisher willing to handle the distribution of the ultimate product will be given favorable consideration when the contract award is made.

40. Make financial support available to developers for seeking product distribution through commercial channels.

    Example. Authorize developers to pay agents who make a business of locating publishers for products.

41. Allow developers to publish what they have created when all else fails.

    Example. Use the technique in item 2 d described earlier under Copyright Model.

Distributors as Developers

42. Make no general advance determination that any type of agency in either the private sector or the public sector can accomplish all NIE purposes. Do not engage in exclusive use of one type of agency for one kind of function; do not prohibit any type of agency from engaging in any specific function. Choose among agencies on the basis of the probable cost/effectiveness of their proposed work.

    Example. Examples of how this general viewpoint can be carried out in practice aregiven in the items which follow.

43. Promote the participation of commercial publishers in the development of the NIE-sponsored products, either working with non-profit developers or working alone, just as NIE should promote the participation of developers in the distribution of materials, either working with commercial publishers or working alone.

    Example. Encourage commercial publishers to submit competitive bids for the creation of any product for which NIE intends to issue a contract.

44. Make product development an attractive activity for commercial publishers.

    Example. Arrange for any publisher who is given a contract to develop materials to distribute those materials, unless extraordinary circumstances arise to justify competitive bidding on the distribution.

45. Make the joint development of materials attractive to publishers.

    Example. Allow a publisher who has participated with a government contractor to create materials to publish the jointly-developed product.

Special Products

46. Recognize that unconventional materials do not constitute a problem to distributors, since they are able to produce and distribute such materials easily if there is a ready market.

    Example. Before sponsoring the creation of an unconventional product, establish that prospective users will be willing and able to acquire it once published. This will tend to insure that the first-choice distributor (these are the commercial publishers as explained under the topic Developers as Distributors earlier) can be used.

47. Recognize that special incentives do not need to be given to distributors to educate the public, persuade administrators, or retrain teachers to use unconventional products, so long as those products have a high-volume potential.

    Example. Use the market-identification, market creation, or market subsidization techniques described earlier in item 2, and use them them in the order given, so as to avoid creation of unnecessary incentives.

48. Recognize that the Government Printing Office is only a printing service and cannot offer a full-fledged product distribution service, including an active sales force, product demonstration, training, maintaining the quality of the product in actual use, and so on.

    Example. Use the GPO only as a last-resort channel for the distribution of NIE-sponsored products.

49. Encourage the availability of a wide variety of educational products to serve a diversity of schools and school populations.

    Example. Rather than avoiding the creation of special and unconventional products, sponsor their creation and then engage in the market-identification, market-creation, and market-subsidization activities described in item 2 earlier.

Clearinghouse Functions

50. Help developers and publishers to communicate with each other.

    Example. Convene a conference such as this every two years or so to review the workings of the NIE dissemination/copyright policy and draw advice from developers/distributors as to desirable changes in that policy.

51. Solicit the advice of developers/distributors in advance of contracting for services.

    Example. Convene a representative sampling of developers/distributors to discuss proposed Requests for Proposals before drawing up such proposals.

52. Continue and improve the Publishers Alert System to keep developers/distributors informed about activities in the field.

    Example. Have PAS announce contract awards when they are first made in addition to the current practice of announcing products available for publication.

53. Ease the way for cooperation between developers/distributors.

    Example. Allow longer lead time for response to Requests for Prosposals so that developers and distributors can prepare joint responses for cooperative work. A response period of approximately 90 days would allow sufficient time for interested organizations to ascertain each other's interests in joint efforts on an NIE-sponsored product.

54. Place announcements of NIE's interests and activities in publications most likely to reach developers/distributors.

    Example. Release announcements through CEDAR and through publishers' association trade journals.

Evaluation/Review/Revision

55. Make a major commitment to advancing the art of evaluation, both formative and summative. The state of the art of evaluation is still quite primitive; thus, erroneous assessments of NIE-sponsored products are always a possibility.

    Example. Sponsor the creation of new techniques for assessing the educational products in natural settings.

    Example. Sponsor training for developers/distributors to increase their skills in product evaluation.

56. When issuing Requests for Proposals for product development, provide for a series of evaluation activities.

    Example. Require successful contractors to have third-party evaluators pilot test products during development, field test products before national distribution, and test product use under natural conditions following national distribution. Require that all such reports, accompanied by a description of what the developer has done to alter the product to correct any shortcomings, be submitted to NIE as soon as they become available.

57. Do not require evaluation as a condition for issuing developmental copyrights but simply require that developmental materials contain a statement disclaiming any NIE position, policy, or endorsement.

    Example. Issue developmental copyrights automatically upon request simply as protection to the developer and to prospective users, no matter what the quality of the materials themselves.

58. Evaluate all products created under NIE-sponsorship but do not make award of copyright contingent on the outcome of the evaluation. As indicated above, the state of the art of evaluation is too primitive to permit valid copyright decisions on the basis of evaluation findings. At the same time, any evaluation results which are available on the product should be made available to prospective consumers when products are placed on the market.

    Example. Issue at least a short-term copyright for all products, even in the absence of any evidence that the product is effective.

    Example. Require that the results of evaluation studies be made available to the profession by distribution through the ERIC system.

59. Should NIE decide to withhold publication copyright and terminate a project in which a developer has made a financial investment, consider reimbursing the developer for costs incurred. This will encourage developers to engage in cost-sharing in future NIE projects.

    Example. Allow the developer to retain a portion of royalty earnings on another NIE-sponsored product equivalent to the amount spent by the developer on the aborted effort.

Royalties

60. Recognize that the royalty rate paid by the distributor as well as the royalty split between the developer and NIE can be adjusted to serve as incentives for distributors and for developers. Make the the rate and the split negotiable.

    Example. Allow lower royalty rates for distributors who will spend their savings on supplying training to accompany their product and allow a higher royalty share to developers who will evaluate the product during natural use after general distribution.

61. Involve both the public and private sectors in developing criteria for determining both the rate and the split.

    Example. Solicit the opinions of organizations like CEDAR and AAP in generating the criteria and deciding how they should be used.

62. Recognize and accommodate the independent status of the research and development centers and regional educational laboratories. Now that these institutions do not draw basic institutional support from NIE but receive funding only for selected programs, they are unable to rely on continued NIE funding as a sole revenue source.

    Example. Adjust the royalty share allowed to centers and laboratories upward in recognition of their need for regular revenue from sources other than government contracts.

63. Deliberately adjust the royalty share and the royalty split to maintain the continued interest of developers/ distributors in the post-publication evaluation, revision, and maintenance-in-use of products after distribution.

> Example. Allow developers to retain an above-average share of royalties when they agree to devote these to revision of materials to eliminate weaknesses revealed during their evaluation in actual field use.