10. Evaluating large-scale, computer-related educational activity: an example from The Netherlands

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Summary: Some special problems and characteristics distinguish the evaluation of large-scale computer-related educational activity from other educational evaluation situations and may serve as constraints to the conduct of an evaluation. Nonetheless, systematic evaluation is important. This chapter discusses some of these problems and characteristics, describes a general approach to such evaluation that can accommodate computer-related educational activity, and illustrates this approach through commenting upon its application to the evaluation of a national educational-software-development project in The Netherlands. The article concludes with an evaluation of the evaluation approach, paying particular consideration to its generalizability to other large-scale computer-related educational activities.

Problems in the evaluation of large-scale computer-related educational activity

Very often, decision-makers involved with computer-related educational activity – especially at the regional or national level – express the conviction that it is ‘too early’ or otherwise inappropriate to evaluate these sorts of activities. Various characteristics of computer-related educational activities underlie this conviction:

1. Evaluation is often seen as a summative, endpoint activity. Most computer-related educational activity, in contrast, is preoccupied with start-up and implementation decisions. In most cases, the endpoint is nowhere in sight or is not even defined.
2. Computer-related educational activity is still predominantly at the exploratory level. Evaluation is often seen as incompatible with exploration. It is felt that evaluation will somehow deflate the momentum or inhibit the activity of those who are being encouraged to develop experience in an area.
3. Computer-related educational activity is continually changing because of the rapidly changing nature of the field, both in terms of technology and experience. Evaluation of a ‘moving target’ is often felt to be unproductive and inappropriate. Traditional evaluation methodologies require too long a timespan to execute. Therefore, the recommendations generated from such evaluations will be outdated before they can be disseminated.
4. Computer-related educational activity is distinguished from most other

types of educational activity in that it is predominantly 'belief-driven' rather than objectives- or goal-driven (Baker, 1988). Policy for computer activities in education is often unrelated to specific outcomes, but instead is 'motivated by a more general desire to improve educational quality' (Baker, 1988) or by equally diffuse motivations to 'better prepare students for the future' or to 'improve students' thinking,' or even, somehow, to prevent a country from falling further behind other countries with respect to global competitive advantage (Collis & Oliveira, 1989). Evaluating progress with respect to visionary and vague beliefs is methodologically (and politically) difficult.

5. Even when a computer-related educational activity has distinctly stated goals, these goals are often aimed at a date far in the future (ie, develop software that will eventually be in frequent use in schools; change the role of teachers; through experience with computer use in a particular curriculum area, make changes in the curriculum in that area), which again makes traditional evaluation seem inappropriate.
6. No budget has been provided for evaluation (probably because of the above five reasons and also because all available money needs to be directed toward the never-ending task of adequate hardware and software provision).

All these are components of real-world practice and policy with respect to computer-related educational activity. Each of the six points can be argued as a logical reason for postponing the implementation of specific evaluation studies in the context of computer-related educational activity. In addition, large-scale activity by definition involves many different people and can involve many different smaller bureaucracies, each with its own way of doing things. Evaluative comment that criticizes subgroups as not operating efficiently, for example, can place great strains on attempts to coordinate cooperation between groups for the sake of the overall project. Constraints on implementation that relate to human idiosyncracies or to past experience among participants in the activity may be considered too sensitive to clarify in the context of an evaluation study. The relatively small amount of systematic evaluation of computer-related practice or policy, particularly at the large-scale or national level (in practice or in the literature), is probably a result of this human complexity as well as of the six points mentioned above.

Motivation for the evaluation of large-scale computer-related educational activity

Despite the constraints to systematic evaluation of computer-related educational activity listed above, there are important reasons why such activity should nonetheless occur. These reasons relate to both the specific situation and to the advance of knowledge in the overall field.

For the specific situation, systematic evaluation can serve various helpful roles. It can function as a coordinator and interpreter of different experiences within the activity, identifying trends and interactions. This sort of identification is just as important at the start-up phase of large-scale educational activity, where insights gained can be funnelled immediately into the project, as it is at

some sort of 'summative' point. Because of the inevitable changes which will occur in a large-scale computer-related educational activity, both in terms of the characteristics of the personnel and of the computer-related resources available, evaluation can serve the role of interpretive historian, helping practitioners to learn from past experiences. And because goals and objectives are often so vaguely stated, evaluation can serve as the stimulator of consideration about these goals on a periodic basis. Through such consideration, a gradual refinement of goals and realistic expectations can occur.

Evaluation is important not only to the specific situation, but also to the general cause of better understanding of computer-related activity in education. Research studies which focus on a controlled situation and a limited set of variables are often difficult for the practitioner to apply to their large-scale situation. A better representation in the literature of evaluation studies, including a more realistic range of real-world factors that constrain or shape computer-related educational activity in practice, could facilitate a synthesis of experience in a way that is as pertinent to the decision-maker in the field as to the researcher. Planning and expectations can be improved if decision-makers have a more informed sense of the predictable problems which constrain implementation of computer-related innovation in the field. Such better understanding can lead to savings in time, energy and cost, as well as preventing the build-up of overly simple expectations among initial participants in a computer-related initiative.

What can be valuable therefore is an approach to evaluation that embodies the above benefits but also directly acknowledges the six constraining areas mentioned earlier.

Strategies for the evaluation of large-scale computer-related educational activity

It is clear that evaluation activity should acknowledge and accommodate the characteristics of large-scale computer-related activity rather than presuppose a situation where the problems associated with these characteristics are not pertinent. What seems to be needed, relative to the six points listed above, is an approach to evaluation that:

- ☐ emphasizes the formative aspect of evaluation;
- ☐ is perceived as a constructive contribution rather than as a judgemental commentary and is seen to be stimulating to those involved in exploratory activities;
- ☐ is able to provide, in a timely manner, comments about an existing situation, but also able to reorient itself quickly to new realities in the situation (this means that an iterative approach relative to the parameters of the evaluation is necessary);
- ☐ has as part of its contribution the possibility of stimulating the sharper articulation of intentions and goals for the computer-related activity, but is also able to proceed when goals are only vaguely formulated;
- ☐ is able to predict progress toward long-range goals by using interim evaluative benchmarks; and
- ☐ can be done in a relatively casual and inexpensive manner.

In addition, the approach must be executed in a way that respects the sensitivities involved in trying to foster cooperation among sometimes disparate groups of people. In the next section, we describe a framework for an evaluation approach that meets these requirements.

A general framework for the evaluation of large-scale computer-related educational activity

A simple framework, based on Robert Stake's (1973) concepts of congruency and contingency and his (1977) concepts of preordinate and responsive evaluation, can meet the above requirements and has been used in a number of large-scale, computer-related evaluation studies. The framework can be represented by the diagram in Figure 1.

As can be seen, the framework consists of six boxes in two columns, interconnected with various arrows. The left hand column represents the intentions, or plans, of an activity, and the right hand column represents what actually happens. It is important to note that the content of the boxes can change many times during the course of the evaluation. This is due to the other aspect

Figure 1 *A framework for evaluating computer-related educational activity, adapted from Stake, (1973)*

of the framework: the arrows. The arrows describe the different paths of evaluative analysis possible with the framework. The first analysis-set interrelates boxes A, B and C. At any point in the project, but especially before events have progressed very far, analysis can be made of what Stake calls the 'logical contingencies', or logical relationships, between the assumed baseline characteristics of the system, the outcomes that are hoped for, and the activities that are planned to move the basic elements of the system toward the intended goals.

A second analysis focus relates to a comparison of boxes A and D, boxes B and E, and boxes C and F. Stake calls this an assessment of the congruencies in the system. A congruency assessment between boxes B and E can occur at any time when the activity has moved beyond the planning stage. An intelligent 'guess' or appraisal of the congruency between boxes C and F can also occur at any time once execution of activities of the project have begun. (It is this congruency, taken at the endpoint of a project, which is typically the basis for summative evaluations.) A congruency assessment between boxes A and D usually occurs after the interpretive analysis described in the next paragraph.

A third analysis focus in the system relates to the interpretation of incongruencies between boxes B and E, or between boxes C and F. It is at this point that the system is particularly powerful. When incongruencies exist, and they seem to be inevitable, it is important to be able to categorize them as relating to 'theory or planning breakdown' or to 'execution breakdown' (Suchman, 1976). Do the incongruencies arise because some aspects of the logical planning of the activity should be reconsidered? In particular, do some of the assumptions about the baseline characteristics of the system (such as the capabilities or motivations of the people involved) need to be modified? (This is where a careful consideration of the components of boxes A and D often occurs.) Or do the incongruencies arise because of execution deviations from what was intended? If so, how can these deviations be rectified? If they cannot realistically be rectified, there is a 'theory' or intention problem in the system.

The last analysis focus relates to making recommendations that can change the state of the system. If theory breakdowns have occurred, or if outside events urge a change in the intentions or initial parameters of the activity, or if the participants in the project themselves make changes in the intentions of planning of the activity, then a new iteration of the status of the system must occur, with new contents in at least some of boxes A, B or C. It is important that the evaluator keep track of the various alterations in the intentions of the activity, partly because it is useful on occasion to remind the project participants of how far they have deviated from their original intentions, and partly because this sort of information – relative to unrealizable aspects of intended activities – can be very important for others beginning a similar project themselves.

Once there is a new appraisal of the intentions of a project or activity, the cycle of analysis can begin again. Thus the framework represents an iterative system.

How does the framework function relative to the six criteria for the evaluation of computer-related educational activity listed earlier?

- ☐ The framework is an appropriate tool for formative analysis. The assessment of logical relationships (contingencies) among boxes A, B and C, and the assessment of congruence between boxes A and D, B and E, and, on an interim or predictive basis, boxes C and F, and the iterative recasting

of the first column of the system are all activities most productive in the domain of formative evaluation.

- ☐ The approach can be presented with an emphasis on the iterative refinement of the planning of the activity rather than with a judgemental focus relative to specific persons or activities. This approach does not suggest personal judgements about individuals so much as it suggests changes to overall considerations and planning. As such, it can mute the usual connotations involved with 'being evaluated', particularly in the context of exploratory activity.
- ☐ Quick applications of the framework can occur, in that it can be used in reference to particular and even 'small' aspects of the system as well as to larger perspectives. The iterative nature of readjustments to the 'intention column' of the framework accommodates the fact that computer-related educational activity is always changing in its characteristics even in the midst of careful planning.
- ☐ The iterative aspect of the approach provides the opportunity for various reconsiderations of the goals of a project. The process of attempting to contribute to the logical analysis of the relationship between boxes in the first column can also be a useful stimulus for the clearer articulation of goals by those involved in the activity.
- ☐ The strategy of considering box F in terms of prediction of how likely it is that intended outcomes will occur given the current status of the planning of a project and the way in which execution decisions are evolving provides a way to extrapolate from the current state of the system toward the likelihood of eventual success in the future. What comprises 'success' and what intermediary steps are likely to precede it can be fruitful objects of discussion among those involved in the computer-related educational activity. It can also be a useful approach relative to better goal specification (see the previous point).
- ☐ A particular benefit of the framework is that its flexibility allows it to be used in a 'modest' manner as well as in more extensive ways. A single 'expert', for example, from outside the project of activity can be asked to give opinions on the local premises of the project (logical contingencies between boxes A, B and C). This activity can take place at any time within the project, and can be reasonably quick and inexpensive. The insights obtained can be valuable, particularly if the project team is oriented toward the value of a specific reconsideration of the intentions and assumptions of their project.

To illustrate these points with a practical example, an application of the framework to the evaluation of a national educational software development project in The Netherlands will be described.

Evaluation of the POCO project: an application of the evaluation framework goals of the POCO project

A national educational-software-development project began in The Netherlands in the summer of 1987. This activity, called the 'POCO Project' from its

Dutch name *Programmatuur Ontwikkeling voor Computers in het Onderwijs* (Software Development for Computers in Education), was established by the ministry of education in The Netherlands under the framework of another national initiative called the INSP (the Dutch Informatics Stimulation Programme (see the section by Scheerens in this volume for a report on the evaluation of this overall project). The POCO Project had as its goal the development of educational software:

that can be used by teachers in a meaningful way during their regular teaching activities, and that can be used with such frequency as to strengthen the teachers' perceptions that using such packages is an effective and efficient response to an educational need. (Policy Note, Minister of Education, June 11, 1987, p 2, English translation)

The project was also given the organizational goal of completing a first set of 18 software packages in 18 months ('Cycle 1', to be completed in December 1988) and a subsequent set of approximately 25 more packages during 1989 and 1990 ('Cycle 2'). For political reasons, the minister stressed that the project must involve collaboration with the established commercial educational publishers in The Netherlands, to minimize the fears of the publishers and of private enterprise more broadly that a subsidized government project would compete with their own business initiatives.

A final goal for the project emerged during the initial elaboration of the minister's directive:

The POCO project has to promote products that are marketable, both to the internal Dutch market but also in foreign countries. Through the incomes of these 'saleable' products (both the software and the approach used for developing the software) the project can become a self-supporting activity. (Moonen, 1987a, p 3, English translation)

Motivations for an ongoing evaluation of POCO

A critical point for the project was to be the transition between Cycles 1 and 2. At that point, a decision about continuation of the project under its current management would be made by the ministry. With approximately \$12 million committed to the overall project, the seriousness of preparation for the ministry's post-Cycle-1 evaluation can be appreciated. The director of the group given the management of the project for at least its first cycle felt it desirable to include evaluation activity throughout the first period. It was also decided to engage an external evaluator to be responsible for this activity in order to avoid reflecting the biases of any of the installed educational groups within The Netherlands who were either involved in some way in the project or who felt some concern that they were not involved in the project. The tasks given to the evaluator were to provide regular information to the director and the project-management team for ongoing readjustments and continuous quality control during Cycle 1 and to predict the level of eventual attainment of the goals of the project based on the evolution of implementation decisions during Cycle 1. In particular, it was felt to be important to focus on the procedure for software development being used for the project. Both logically and in practice, it was

important to consider the procedure, as planned and as implemented, in terms of the likelihood that it would yield software that would eventually meet the ambitious goals of the project. When the procedure deviated in execution from what was planned, it would be important to analyse these deviations in terms of either the intentions of the project or the ways in which the intentions were implemented in order better to anticipate what sorts of modifications should be made both during Cycle 1 and the hoped-for Cycle 2.

Design of the POCO evaluation

The adaptation of Stake's model described earlier in this report was chosen as an appropriate framework for the ongoing evaluation of Cycle 1 of the POCO project (Collis and Moonen, 1988; Moonen, 1987b), particularly because of the way its iterative orientation allows for continual reassessment of both planning and execution decisions within the project. An evaluator was appointed for the project (the evaluator was external to The Netherlands during the first 14 months of the 18-month evaluation period) and presented a plan for the evaluation structured around a design with the following components (Collis and Berger, 1987);

- ☐ evaluating the logical fit between the assumptions and goals of the POCO project and the plans developed to meet those goals;
- ☐ observing actual implementation of the plans and interpreting deviations from the intended plans for the project;
- ☐ reassessing the intended assumptions and goals of the project and the plans developed to meet those goals;
- ☐ predicting periodically the likelihood that the project will meet its long-range goals; and
- ☐ making recommendations for project adaptation.

In addition, the following issues were identified as being of ongoing importance to the evaluation study:

- ☐ Can the project, within the resources and time available to it, develop software that is likely to be in frequent use by Dutch teachers?
- ☐ Can the project develop, implement, and manage an innovative model for software development that will involve collaboration among a large number of different groups, such as commercial software developers, commercial educational publishers, the ministry, teachers, various established educational support groups, and the group chosen to manage the project?
- ☐ Can classroom teachers be meaningfully involved at appropriate places in the decision process relating to the software packages?
- ☐ Can written material be developed that effectively supports the use of the software by teachers and students?
- ☐ Can a widespread and positive public image be developed, both within and outside The Netherlands, for the software, the approach used to develop the software, and the team involved in managing this approach?

Data were accumulated through the continual exchange of ideas and observations, through either personal or telecommunications-mediated com-

munication, between the external evaluator and an assistant working within the project. In addition, the evaluator visited the project regularly, conducted interviews, and had access to all internal and external material produced by the project. Ongoing feedback was accomplished through having evaluation reports produced at approximately two-monthly intervals. The eight evaluation studies produced for the project are outlined in the Appendix.

Because the POCO evaluation was ongoing, its interim reports could focus on the distinction between intentions and implementation relative to specific aspects of the project at the times the aspects were most pertinent to the project. The major evaluation focuses were:

- ☐ organization of the infrastructure for the project;
- ☐ development of a priority list of software topics for Cycle 1;
- ☐ development of product descriptions;
- ☐ development of lines of communication and responsibility within the project;
- ☐ interactions and arrangements with commercial educational publishers;
- ☐ technical development of the software;
- ☐ development of the print materials to support the software;
- ☐ field testing of products;
- ☐ ongoing field involvement ('field confrontations'); and
- ☐ ongoing information dissemination about the project, nationally and internationally.

Relationship of the POCO evaluation to the general framework for the evaluation of large-scale computer-related educational activity

Earlier in this report, the general framework for evaluation of large-scale computer-related educational activity shown in Figure 1 was discussed in terms of how it could produce pertinent short- and long-term recommendations for a project as well as for the educational community at large. The framework was also discussed in terms of how it related to six typical characteristics of large-scale computer-related projects. How does the POCO evaluation relate to all of these considerations?

Specific challenges of the evaluation

The fifth of the six problems described at the beginning of this section presented the major challenge to the POCO evaluation. This problem relates to the evaluation of progress towards goals that can only be directly assessed long after a project is completed. In the POCO example, goals about developing software that will eventually be 'in frequent use' by teachers and profitable in the educational market both inside and outside The Netherlands. The director of the group managing the project felt that the development of regular feedback loops (or 'confrontation' opportunities) between representatives of those eventual target groups (classroom teachers from within The Netherlands and educational decision-makers from within and outside The Netherlands) would be an

effective means by which the project could anticipate the long-range response from those groups (Moonen, 1987a).

Having frequent 'confrontations' would also allow adjustments to be made to the packages during the design and development phases in order further to enhance their eventual market appeal. In consequence, a major focus of the ongoing external evaluation of the project was the degree to which these sorts of confrontations took place (Collis & Berger, 1987). In each of the eight evaluation reports some attention was given to the current level of field-project interaction. The difficulties involved in trying to organize meaningful interaction between teachers and professional software developers working under severe time restraints were never resolved.

Fit of the POCO evaluation to the general framework

The POCO evaluation reflects the general framework illustrated in Figure 1 and discussed earlier in this report. Assumptions of the project were frequently examined, particularly in relation to the implications of the substantial involvement of educational publishers, but also in relation to the time and resource allotment given to the project. The logical relationships between the intentions of the project and the activities chosen to meet those intentions were often appraised, in particular with respect to the various conferences sponsored by the project to promote awareness of its activities.

A major focus of the evaluation involved interpreting project slowdowns. In a project of the scope and complexity of POCO – involving, in various ways, hundreds of people in diverse groups (educational publishers, teachers, curriculum specialists, educational technologists, commercial software houses) working on, in effect, 18 different projects – it is inevitable that project implementation will not always proceed as planned. However, it was perceived to be highly valuable both in an immediate sense in Cycle 1 and for planning relative to Cycle 2 that a distinction be made between slowdowns rooted in theory and slowdowns rooted in implementation specifics. When implementation decisions formed the major basis of project slowdowns, the evaluator could offer comments on alternative implementation strategies. Relative to theory or logical slowdowns, however, the evaluator could also help the management team identify elements of their basic planning which might be modified either directly or in Cycle 2. Also, the evaluator could elaborate more globally on basic implications of the original assumptions and goals of the project.

As an example of this, a fundamental tension existed between the goal of actively involving educational publishers in the project and the goal of creating products of interest to buyers outside The Netherlands. Involving Dutch publishers meant creating products that reflected existing Dutch textbooks and methodology, thus limiting the portability and innovation of the software and the international aspects of its marketability. It would be inappropriate to indict the POCO management for not meeting the dual goals of publisher accommodation and external saleability when this is more a logical consequence of the project's initial assumptions than it is something that could be related to project-management decisions. Thus the continual application of the framework shown in Figure 1 allowed the evaluator to categorize interpretations of ongoing project

activity and to offer constructive suggestions based on those interpretations (Collis & Moonen, 1988)

Contributions of the evaluation

The evaluation contributed both short- and long-range value to the project (Collis and Moonen, 1988). Various recommendations made in the eight evaluation reports were implemented or at least considered carefully during Cycle 1 itself. The ministerial evaluation at the end of Cycle 1 awarded the continuation of the project in its second phase to the same management team. The extensive documentation provided by the evaluation during its first cycle was used during the planning for its second cycle.

The evaluation also made at least one other global contribution to the project. The periodic appearance of the evaluator, with the mandate to ask individuals about their planning and their interpretations of the goals and activities of the project, served as a catalyst to better project self-awareness. This is the benefit of an external evaluation – to be sufficiently outside a system to ask specific questions about implementation decisions and intentions in the way it could not as part of the project staff. The stimulus of the evaluator's reports ensured the project had regular periods of self-inventorization, something it might not have taken time to do, at least on such a regular basis, without such a stimulus.

It is more difficult to claim that the evaluation contributed to the advance of more general experience with regard to large-scale computer-related educational activity or even national software-development projects in a more specific fashion. This is because of an inherent characteristic of evaluation studies: their confidentiality. Projects may be mature enough to welcome feedback and comment within their ranks, but most do not feel that the public exposure of these interim comments is to their advantage. This is understandable; however, it creates a definite problem with respect to the better dissemination of experience throughout the field.

Fit of the POCO evaluation to the evaluation criteria associated with the framework

With respect to the fit of the POCO evaluation to evaluation criteria associated with the six characteristics of large-scale computer-related educational activity discussed at the start of this report the following observations can be made:

- ☐ The evaluation was related to ongoing formative evaluation.
- ☐ The major orientation of the evaluation was to reassess the totality of project assumptions and planning, rather than to make judgements about the adequacy of performance of any particular participant in the project, minimizing the chance that any individual felt uncomfortable or inhibited by the feeling that he or she was being personally assessed.
- ☐ The framework was used not only for the overall evaluation but also for each of many 'small evaluations' that occurred on an ongoing basis throughout the project relative to component activities within the general project. Continual and quickly delivered recommendations were provided

through the mechanisms of eight evaluation reports, each representing one or more iterations of the framework.

- The evaluation made it clear that the original planning for the project had to be clarified in many ways. In this project, however, the goals were quite specific, so the evaluation did not have to deal with the need for better articulation of the goals of the project itself, as is often the case with less product-oriented educational activity involving computers.
- The evaluation helped the project management to consider more closely how their ongoing implementation decisions may affect the eventual attainment of the goals of the project, particularly with respect to field confrontations and quality assurance for support materials to accompany software products.
- The evaluation was relatively easy to implement and tolerate, with the cost to the project relatively small.

Conclusion

The adaptation of Stake's model shown in Figure 1 appears to be a useful approach to the evaluation of large-scale computer-related educational activity. Its application to the evaluation of the POCO project is only one of many examples of its flexibility and usefulness. The accommodation of the approach to the particular characteristics of computer-related educational activity, characteristics which deter many decision-makers from initiating evaluation studies of such activities, offers a particularly strong support for the approach. Thus, in conclusion, the experiences of the POCO project evaluation support a recommendation to managers of comparable projects that they include similar evaluation projects as essential parts of their projects. In such a way the evaluation study will have more value to the project than if it were attempted in a summative framework. Too often evaluation studies have only a minor influence on projects because critical observations appear too late to be incorporated into ongoing project activity and the results of the study will be unlikely to be used for new projects because each project creates its own circumstances and contextual conditions. The evaluation procedure described in this report allows for ongoing implementation adjustments as well as goal respecification, and as such is recommended for other large-scale computer-related educational projects.

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Appendix: POCO evaluation reports

(Date submitted given in parentheses.)

1. Evaluation of the September 1989 'Working Conference' (October 14, 1987).
 - ☐ Evaluation of the working conference relative to its intentions.
 - ☐ Recommendations for Cycle 2.
2. Evaluation of the 'Priority Determination Phase' (December 4, 1987).
 - ☐ Evaluation of the determination of priorities.
 - ☐ Implications from the implementation period, September–November 1987, for the remaining components of Cycle 1.
3. Planning for 1988 (December 31, 1987).
 - ☐ Critical issues relating to the Product Description Phase.
 - ☐ Issues relating to the Product Development Phase.
 - ☐ Strategies for broad support in the educational field.
4. Evaluation Report – January–May, 1988 (May 13, 1988)
 - ☐ Current status of the 18 POCO products.
 - ☐ Implications of current status for the remainder of Cycle 1 and for Cycle 2.
 - ☐ Follow-up to recommendations made in Report 3.
 - ☐ Evaluation of the POCO infrastructure.
5. Evaluation Report 5 (August 19, 1988).
 - ☐ Current status of the 18 products.
 - ☐ Major issues relating to the products.
 - ☐ Recommendations for Cycle 2.
 - ☐ Field input and confrontations.

6. Evaluation Report 6 (September 28, 1988).
 - ☐ Evaluation of the 'POCO After 1 Year' Conference.
 - ☐ Evaluation of POCO-field interaction.
 - ☐ Evaluation of current field response to POCO products.
 - ☐ Recommendations for Cycle 2.
7. Evaluation Report 7 – Product Status and Field Testing (December 20, 1988).
 - ☐ Current status of products.
 - ☐ Field tests.
 - ☐ Publicity and public relations activities.
8. Evaluation Report 8 – Recommendations for Cycle 2 (December 31, 1988).
 - ☐ Assessment of congruence between the original POCO 'Plan of Action' and project status as of December 23, 1988.
 - Goals of the project.
 - Developing a criterion for 'frequent use'.
 - Anticipating the saleability of the products.
 - Taking advantage of already-existing products.
 - Assessment of educational impact.
 - Ongoing evaluation.
 - Time schedule.
 - The 'White Papers' and setting priorities.
 - Field confrontations.
 - Product Description Phase.
 - Technical Realization Phase.
 - Relationships with the Dutch educational publishers.
 - Relationships with the Dutch educational community.
 - ☐ Summary, and recommendations for Cycle 2.