

PART I PROJECT ASSESSMENT, MONITORING AND REVIEW: GUIDELINES FOR QUALITY EDUCATION FUND

INTRODUCTION

The Quality Education Fund Secretariat receives, assesses, monitors and evaluates proposals and project reports for innovations in the Hong Kong education system. A number of people and agencies are involved in this process. Separate agencies apply for funds; assessors evaluate the proposals; project officers and reviewers monitor the project; reviewers evaluate the project outcomes; agency staff monitors and evaluates the project procedures, outcomes and outputs; and the Secretariat directs the dissemination. Each has a specific role to play. The procedures largely involve written reports and monitoring by the Secretariat staff. There is a need for defined roles, and procedures. This report attempts to set these roles and procedures in the context of a project development and evaluation model.

The procedural guidelines discussed in this report focus on the identification of needs and the development of plans to address those needs. It sets out how implementation, outputs and outcomes may be reviewed.

The term agency is used because the model is not restricted to any specific type of delivery unit such as a school, school support centre, district, branch or division, educational institution other than a school or a non-government organisation. It is designed to help review project applications and operations, identify needs, link to existing programs, and to evaluate and report on the project impact. The importance and impact of appropriate reporting focuses attention on communication related to the planning, development and evaluation of projects designed to achieve specific goals.

Agencies, which have already adopted strategic planning, will find the approach relatively simple to use. Listed within each section of the model are possible methods, persons, goals and so on. These lists are advisory, rather than prescriptive. They give the reader a frame of reference in which to address a series of basic questions that can be used to review and monitor a project. These are:

- What **goals** and **needs** are/were set?
- What **plans** are/were developed?
- What **processes** are/were used?
- What **impact** did the project have?
- What **effect** did the reports have?

The approach is based on a belief that a corporate approach to program delivery and evaluation needs to be taken. That is, each project should be seen as an integral part of an agency's overall strategic plan and approach to program delivery. For instance, the translation of system level goals into local goals and objectives, strategies and plans needs to be placed in the context of overall goals and funding strategies. The feedback from each agency can then be used and an information base for redevelopment of overall educational goals and strategies can be established. For this reason, it becomes important to examine the effectiveness of the reporting strategies employed by each of the agencies within the system.

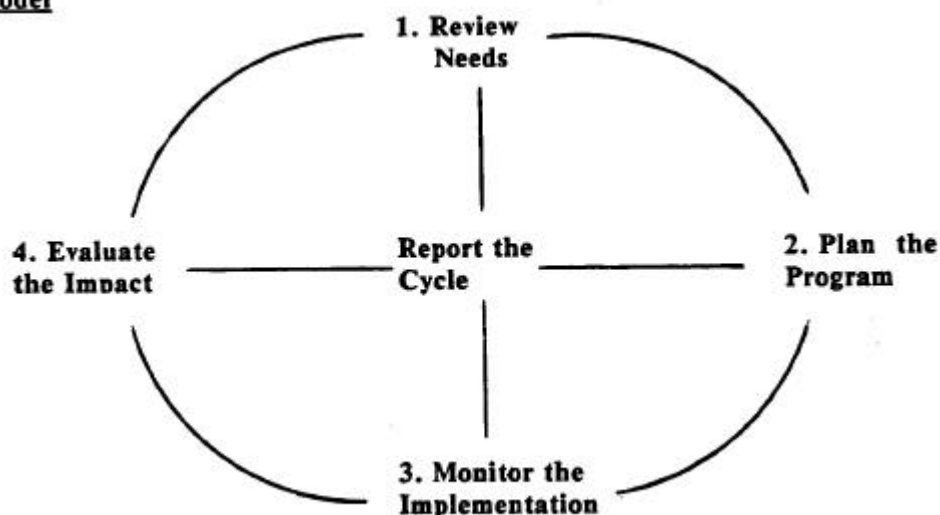
Workshops with personnel applying for funds need to be offered to improve the quality of proposals and to ensure that the proposals address the relevant questions and to be assured that each project can be evaluated. Certainly workshops with the Secretariat staff will be needed initially to raise the skill level in using this approach and to implement a more generic and process oriented approach to monitoring.

The model identifies five components of a cyclic process of review and development as shown below. Reporting is both an independent component and an integral aspect of each other component.

Most of the responsibility for the project, its development, implementation and monitoring as well as the evaluation is passed to the agency being funded. It recognises that the Secretariat staff cannot be expected to undertake the work involved in evaluating and monitoring the large number of projects.

Although the grant applicants feel the burden of work in preparing proposals and reports, it is at this level that the major work must be undertaken to ensure that projects are clearly thought through. Applicants need to think about using consultants to assist with this process and to seek funding to ensure that it is done effectively. Processes need to be clarified to reduce the labour associated with innovation and avoid burn out of both teachers and appraisers. The general approach requires that it be mandatory to show how the proposal was part of the agency's overall long-term strategy. The model shows how a two stage planning approach could assist in the workload and in ensuring that the planning and the project can be evaluated.

The Model



THE FIVE COMPONENTS

1. Review program and assess needs

In this component the agency's educational needs are assessed and problems are addressed. Needs assessments, SWOT analyses and perhaps goal analyses are conducted; staff examine policies and goals and set change objectives; they set explicit performance indicators, measures, benchmarks and targets for those goals.

2. Plan the project and identify resource needs

In this component, the applicants would identify a range of alternative strategies and models that could achieve the goals. A choice is made and this is developed into an action plan. The plan should clearly incorporate resource needs, budget and timelines. It should also provide direction and set priorities for the agency in pursuing the targeted outcomes and outputs. At the school level, for instance, the plan might enable the formulation of a school improvement project or plan and an outline of the budgeting details for that plan.

3. Monitor the implementation of the project

In this step, the action plan is implemented and monitored in order to determine how well the plan has been implemented. The monitoring procedures help to improve the project and the way it works through a formative evaluation process.

4. Evaluate the impact of the project

At an appropriate stage in the project, an evaluation is undertaken focusing on the outcomes, outputs, impact and effectiveness, including the cost benefits. These are assessed at multiple levels and timeframes but directly linked to the goals, using the measures and benchmarks established in the first component of the project proposal.

5. Report the cycle of evaluation and development

In this component, a range of agencies might assess the effectiveness of strategic reporting on the project, the plan, its delivery and impact. They would also examine the reporting, communication and decision making patterns within the project to both internal and external audiences, for both short term and long term consequences as well as for the different levels of stakeholders in the project.

The project review should be continuous during the life cycle because the projects ought to never really stop. This means that the project report is never really final!! It does not mean that the Secretariat staff must be the one to continuously conduct the review. Project staff should have built in continuous internal review procedures and a means of recording and acting on their observations and decisions. A project review team needs to have a regular meeting time. The frequency of the meeting can be varied according to the amount of work to be done and needs to be able to address specific tasks as they are identified. The size of the review team would also vary depending on the size and complexity of the project. However, the project review team is active in all phases of the project from planning to summative evaluation and reporting.

Each of the five components of the model has six procedural questions that need to be addressed.

- a) **What** is the task or focus of attention?
- b) **Who** is involved?
- c) **How** is it addressed?
- d) **When** is the appropriate time to address the matter?
- e) What should the **Report** include?
- f) What are the **Outcomes** and outputs of the component?

Linking the five component questions with the six procedural questions gives a 30-cell Matrix and each of the 30 cells has a range of optional activities and responsibilities. Each cell is numbered for reference purposes in subsequent sections of this report.

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

COMPONENT 1: REVIEW PROGRAM AND ASSESS NEEDS

Cell 11: What is Reviewed?

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

This is the beginning of the project planning and proposal process and involves a needs assessment linked to the agency's mission, goals, purpose and plans. The review contextualises the project proposal and establishes its links with the overall strategic plan. Whether the review becomes a major or minor review, as defined by Caldwell and Spinks, depends on the nature and range of goals selected. The following list provides suggestions for planning the project and might also be used as a checklist for an assessor when reviewing the project proposal. In fact an initial proposal might address these questions directly.

- a) Are the **mission and goals** set within the context of the agency?
- b) Is the **philosophy** clearly linked to the project goals?
- c) Are the **current goals** of the agency consistent with and adequate to fulfill the mission?
- d) Is there **congruence** between the project goals and those of other relevant agencies and levels of the system?
- e) Is the **status** of the agency's current achievement against the goals examined and reported?
- f) Are the **problems** and constraints faced by the agency identified?
- g) Have the **needs** been identified, analysed and prioritised? Are they *declared, comparative, gap analysed or felt needs*? (See glossary under "Needs assessment").
- h) Have the needs been translated into **change objectives**?
- i) Have **priorities** been established among the change objectives?
- j) Have performance **indicators** been defined for each objective?
- k) Are there **target** levels of performance for each indicator using explicit measures or evidence?
- l) Are the targets and measures observable and measurable?

These review discussions might be best handled in a meeting or a focus group, or in the case of a large multiple agency research based project, a review of relevant research and development reports.

Cell 12: Who should be involved in the Review?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Project or proposal leaders and other administrators should ensure that all stakeholder interest groups are involved in the review and planning for the project. There should be representatives of each identifiable group in the agency. In the case of a school, for example, these could be:

- a) Teachers and / or agency staff
- b) Students and / or clients
- c) Agency Administration
- d) Welfare staff
- e) Regional/District/Administration
- f) Parents
- g) Community/Business Groups
- h) School Council
- i) Faculty Groups
- j) Peers from similar agencies
- k) Employers
- l) Professional associations and/or unions
- m) Consultants who might be assisting with the proposal
- n) Review panels and peer review groups

Any group representing all of these interests will get very large. Perhaps it is not practicable to involve everyone directly. With large groups there will be little or no chance of making progress if decisions depend on gaining consensus of a large group. It may be better to establish a core group of people with specific perspectives on the program under review. The core group might also contain people who support, oppose or who feel neutral about the program under review. Smaller groups with specific purposes would also provide a focus.

In a school, the principal must always be a member of the core group, as must senior staff members with direct responsibility for the project. For example, a deputy principal should be a member of the project committee examining pastoral care programs. The faculty heads or panel chairs ought to be on a project committee working on an overall curriculum project. The composition of the core project committee should be pertinent to the area of interest. The only compulsory member of each project committee at a school level must be the principal and perhaps a parent representative. The mix of external and internal participants depends on the nature of the task.

Thorough appraisal strategies for the review outcome (a proposal) need to be employed with public criteria and a transparent process of feedback to applicants. This must include anonymous peer appraisal, perhaps using online reporting of reviews. Where there are large numbers of proposals, a panel of peer appraisals could be established similar to that used by the American Education Research Association (AERA) peer appraisal methods. Papers

and contributions to the annual conference (for which more than 15000 applications are received annually) are reviewed using an online method of submission and review by up to three reviewers. This would not restrict the review panel to Hong Kong reviewers but a world wide appraisal strategy could be employed with the dual effect of publicising the fund achievements and maximising the potential for international exposure of successful projects.

Cell 13: How can the review be carried out?

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

There is a very large range of techniques that can be used to carry out this type of review. Clearly agencies should choose the approaches that enable them to identify the change direction best suited to achieve their mission. Details of each technique and case studies of them can be obtained in most education libraries or through Internet searches.

- a) Environmental analyses
- b) SWOT (strengths, Weaknesses, Opportunity and Treats) analyses
- c) Goal analyses
- d) Document examination and review of relevant research literature
- e) Consultant input
- f) Public meetings
- g) Whole staff meetings
- h) Presentations from core group members
- i) Representative group meetings
- j) Professional development for substantive and process skill acquisition sessions run by consultants
- k) Professional development for substantive and process skill acquisition sessions run by core group
- l) Nominal group techniques
- m) Problem identification and analyses
- n) Needs assessments and analyses – gap analyses
- o) Identifying areas of change and areas of maintenance
- p) Identification of change objectives
- q) Ranking and prioritising of change objectives
- r) Definition of indicators and measures of success
- s) Setting targets to be incorporated in statements of change objectives
- t) Status surveys of goal achievement levels

Cell 14: When should the review be carried out?



	What	Who	How	When	Report	Outcome
→ Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The timing involves more than just when the review commences. It involves the duration of the whole process. None are short-term quick fix methods. All take time. So the planning for the review needs to take this into account. It may be better, for example, to spend a large number of small amounts of time over a longer period than to try and solve the problem or address the needs quickly. There may be set times at which an agency is expected to commence a review. Minor reviews or evaluations might be started each year; small intra-department reviews may be performed each quarter etc. A three-stage approach is an efficient approach.

Stage 1:

The first stage involves the review identifying the approach, the change objectives and the context in which it is to be pursued. In a funding program such as the QEF, this would involve a preliminary proposal being set out that identifies the goals and a broad strategy to be used. This would not be a final proposal.

Stage 2:

The initial proposal would be assessed to determine whether the goals and strategy are achievable. This ought to be a short proposal and submitted to a review panel. The process outlined for the online assessment of proposals would be possible with these short introductory proposals. The criteria for these should be clear and constructive feedback should be given to the applicants. One criterion must be the evaluation potential and the likely outcomes.

Stage 3:

As a result of the stage 2 assessment of the proposal, a detailed proposal should be prepared. This might be prepared by the agency, and where necessary a consultant or partner organisation might be involved in preparing the proposal.

Cell 15: What should be reported about the review?

↓

	What	Who	How	When	Report	Outcome
→ Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The written product of the review would be directly related to the three stages identified in the previous cell. The review itself might lead to a proposal together with background information about its development. In particular ...

- a) A mission statement and a list of related goals
- b) The status of the agency with respect to the goals
- c) A list of needs in prioritised order
- d) A set of change objectives developed from needs
- e) A set of objectives to maintain balance of the project and the agency program
- f) Performance indicators for each goal and objective
- g) Information about the current levels of achievement with respect of the goals
- h) Achievement targets for next time cycle (e.g. school year) for the goals.

This becomes a preliminary proposal, which in the next component of the cycle is translated into a detailed action plan. In other words, there are two stages in planning: one leading to a preliminary proposal, the other to a final proposal with a detailed action plan.

There are other indicators that the proposal should seriously address and report, such as an innovation or areas needing change or assistance to meet a systemic strategy. Support for this might be included in the following:

- a) The theoretical and practical context in which the change process is set
- b) The number and representativeness of people involved as part of the core group
- c) The number of consultations that have occurred
- d) The proportion of different interest groups involved as members of planning group, and/or as members of the survey consultation group, attending public meetings,
- e) The number of areas identified as needing change
- f) The number and type of indicators identified for each goal
- g) The range of targets set and the level of agreement of the affected group with the targets established
- h) Measures and benchmarks established for the evaluation of project outcomes
- i) Evaluation procedures and audiences

Cell 16: What is the outcome of the Review of the Program?

↓

	What	Who	How	When	Report	Outcome
→ Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The outcome of the review should be a detailed contextualised statement of why a change is needed and what the outcomes of the proposed change should be. The context statement should be able to identify the following.

- a) A set of goals agreed upon by all members of the agency and owned by all relevant parties.
- b) A set of prioritised change objectives
- c) Known and agreed indicators of success for reaching the goal and change objective
- d) Targets agreed upon by all parties involved in pursuing the goals
- e) A review committee which agrees to meet regularly and to monitor the project
- f) Ownership of the changes by vested interest groups
- g) Commitment of administration to changes
- h) Commitment of staff to changes
- i) Commitment of clients to changes – in schools, parents, teachers and students
- j) A written proposal context statement outlining the mission, goals, needs and prioritised change objectives
- k) Better informed participants and clients, administrators, system and community
- l) An understanding of the constraints operating on the project

This statement should be the basis of the preliminary proposal for QEF funding. It would not be a long document but should make the intentions and the intended outcomes clear.

Review Questions on Project Background and Review of Goals

The following questions can assist in putting this preliminary proposal together and assist the reviewers of such proposals to make a judgement and provide feedback to the applicants.

Questions in this section may be useful

(a) to identify features relevant to

(i) project feasibility

(ii) grant applications

(b) to record the situation at the commencement of the project.

1. What are the general characteristics of the social environment?

- (a) Type of district, area, region?
- (b) Socioeconomic, cultural and ethnic features?
- (c) Student parental and community expectations?
- (d) Student parental and community disadvantages?
- (e) Student parental and community advantages?
- (f) Any special features?

2. What are the special characteristics of specific relevant (educational) establishments?

- (a) What are the physical features and facilities?
- (b) Are there expectations, attitudes and influences of administrators?
- (c) What are the general organisational features (grading/syllabus etc.)?
- (d) Orientation of educational effort (academic / social ...)
- (e) Characteristics, attitude, commitment of staff?
- (f) Parental and community involvement and support?
- (g) Involvement and attitude of students?
- (h) Level of communication within the establishment?
- (i) Level of communication between establishment and interested outsiders?
- (j) Expectation and support from the administrators and the system?

3. Is the setting appropriate to meet the expectations of all?

- (a) Outstanding deficiencies, needs, alternatives identified?
- (b) Any attempts being made to satisfy these?
- (c) Any particular advantages in the setting?
- (d) Efforts are being made to capitalize on current advantages?

4. What is the prevailing attitude to this particular facility and situation?

- (a) Is the attitude consistent with some/ all others in this situation?
- (b) What philosophical background and personality characteristics contribute to these similarities or differences?

5. Why is the innovation necessary or desirable?

- (a) Can a specific need or a desirable alternative be defined?
- (b) Can this definition be documented or defined?
- (c) Do others recognise the need or alternative as being important?
- (d) What role is the innovation likely to have in meeting general or specific needs in the educational setting?

6. How serious are the needs in the opinion of various significant groups?

- (a) Can these groups be identified and listed?
- (b) Can representatives of the groups be enlisted as participants in the planning exercise?
- (c) Are the needs really worth tackling? Are they defensible?

- (d) If needs are identified, can priorities be established for them including the needs not specifically related to the project?
- (e) Does a partial or limited solution make sense?

7. What sorts of strategies are most likely to satisfy these needs?

- (a) Have the strategies been tried elsewhere such that they might serve as a model for the present innovation?
- (b) Were the circumstances of the previous model similar to the present case? If similar how? If different how?
- (c) Are there differences between the model application and the present and previous situations?
- (d) Would any of these differences have a likely effect on the implementation of the strategies in the present case?
- (e) Have alternative strategies been considered?
- (f) Is the desired program the best alternative?
- (g) What are the desirable features of facilities, setting, and organisation materials to implement the program?
- (h) Are these feasible in the present educational setting?

8. Who are the most likely to benefit from the program?

- (a) How many people will be affected?
- (b) In what ways are they likely to be affected?
- (c) How valuable are the possible benefits as considered by the significant groups affected by the program?
- (d) What factors are relevant to the identification of the possible participants?
- (e) Would participation be based on election, selection, parental permission etc.,?

9. What are the goals of the project as formulated at this stage?

- (a) Are they (or can they be) expressed as likely outcomes for particular persons as distinct from likely procedures?
- (b) Can the goals be expressed as changes in behaviour, procedures, products or organisations?
- (c) Are the goals consistent with the identified needs? Are they sufficient? Are the goals needed? Are other goals needed?
- (d) Are the changes likely to be identifiable and measurable? What measures can be identified to make it clear whether the goals have been attained?
- (e) What are the likely consequences of attending to these goals? Will other goals and parts of other programs or organisation suffer as they compete for limited resources?
- (f) Are the proposed goals compatible with higher order goals of the school or system? If there is a conflict, what is the nature of the conflict?
- (g) Which people or groups are likely to be affected by the project? Which people might affect the project? What commitment do they share to the accomplishment of the goals?
- (h) What objections can and have been raised? Are they valid? How might they be resolved?
- (i) What are the revised goals of the project?
- (j) What period of time would be necessary to achieve these goals?
- (k) What sub-goals are feasible within the specified project duration?
- (l) Are the project leaders committed to the project for this period of time?

10. What additional factors are likely to affect the successful implementation of the project?

- (a) Is the atmosphere of the setting now encouraging?
- (b) Are organisational requirements suitable? Are they reorganisable?
- (c) Are sufficient qualified staff and ancillaries available?
- (d) Are the employment arrangements suitable and stable? What are the likely costs?

- (e) Are necessary locations and facilities available? What are the likely costs?
- (f) What are the necessary and desirable hardware and software materials?
- (g) Which of these are already available in the present setting? What additional costs are there?
- (h) Are the sources of additional materials known and available?
- (i) What additional funding is required for desirable materials?

11. What are the characteristics of the participants of the new project? Ideal? Actual?

- (a) How many, what age, grade, sex, what advantages, disadvantages?
- (b) What are the other relevant background characteristics? (social/ emotional)
- (c) What data is available about the participants' current abilities and attitudes, especially in relation to project goals?
- (d) Is this data in a suitable form for comparison after some time?
- (e) Can such suitable data be obtained after some time? How?
- (f) Is this data factual? It is norm or criterion referenced? If it is based on personal judgement, are the value criteria known and accepted? What are they?
- (g) Is the effect on the participants to be compared with any other groups? If so, is a suitable comparison data available on the other groups?

12. Are changes in, or influences from, any other persons expected?

- (a) Who? How many? What are their relevant characteristics?
- (b) Is it possible to assess their current expectations, value criteria, levels of awareness / attitude / interest, for later comparison?

13. If the innovation is concerned with an innovative organisational procedure or the development of new hardware or software, what aspects of the educational environment was it designed to enhance?

- (a) The physical environment (aesthetic/ material)?
- (b) The cognitive or cultural environment?
- (c) The affective or social environment?
- (d) Communications with other institutions, or with other educators, 'institutions' community etc?
- (e) Efficiency or harmony of the organisation?

COMPONENT 2: PLANNING THE PROJECT

This component should lead to a second phase of planning, in which a detailed proposal is prepared.

Cell 21: *What should be the focus of planning?*

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The planning stage is really another example of evaluation and the determination of the evaluability and dissemination potential of a project. It is the identification of alternative solutions to meet change goals and objectives. It is the specification of criteria in order to judge the proposed solution to needs identified during the review stage. It is the procedure used in order to select the best alternative from a range of possible solutions. It may be applied at several stages of the evaluation process.

STAGE 1: This is the application of evaluation methods in the selection of alternative strategies. A strategy is a general approach to a specific problem.

STAGE 2: Criteria are applied to a detailed model or to a series of alternative models on which the project might be based. The model is usually an existing entity, which may be identified in a review of literature dealing with research pertinent to the problem identified in the context evaluation. Alternatively it may be completely innovative and a new model needs to be developed.

STAGE 3: The third stage is the evaluation of the plan for implementing the strategy or model. It is an evaluation of a very specific plan of project implementation and details the requirements for solving the problem or implementing the change objectives.

The set of change objectives prioritised in the review stage now has to be translated into plans aimed at achieving those targets or change objectives.

- a) Identifying a range of possible strategies for each goal
- b) Searching for or developing appropriate models for each strategy
- c) Evaluating of each of the strategies and models
- d) Developing action plans for a each selected strategy and model
- e) Resourcing the plan setting timelines
- f) Evaluating the action plan for its appropriateness, comprehensiveness and suitability
- g) Establishing responsibilities for component development and implementation
- h) Project budgeting

Cell 22: Who can be involved in planning the project?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
→ Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The development of action plans involves a range of people. As each component of the plan is identified or developed, the personnel responsible for its implementation or development are also identified and involved in finalising each step of the plan. These people then have input into the development of the plans for that component. A representative core group is key to the development of action plans. But their consultation and co-operation with their peers and those they represent is also essential.

- a) **External consultants** can be used effectively, particularly when there is a need to introduce new skills or perspectives into the project in order to make it run successfully.
- b) The **decision makers** of the agency – in a school, for example, the principal, representatives of the school council and faculty heads or co-ordinators -- need to be involved.
- c) The **project staff** responsible for implementation would be able to make valuable contributions as well as becoming involved in the ownership of the project.

Cell 23: How should the planning of the project be done?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
→ Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Planning procedures can take a variety of forms. Some of these might be universal to every project and some would depend on the nature of the project and the planning timeframe. The project assessors would need to review the process of planning as well as the plan itself. The following would be useful:

- a) Project configurations
- b) Pert charting
- c) Gantt charts
- d) Working parties
- e) External consultant help
- f) Force field analyses
- g) Nominal group techniques
- h) Evaluation and adaptation of working models
- i) Feasibility analyses

Cell 24: When should the project be planned?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
→ Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

There is a specific timing appropriate to planning and resourcing a project. For instance, it cannot be done properly until after the goals, problems, needs, change objectives and strategies have been identified and, of course after the priorities have been established. The detailed planning needs to get the proposed project to an operational stage with resources identified and made available before they are needed. Planning should also identify timelines for key stages of the project implementation. Clearly the planning needs to be done in advance of the implementation. These can be an important element of a PERT (Critical Path) or Gantt Chart. The result of the planning should be a fully costed proposal.

Cell 25: What should be reported about the Project Planning?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
→ Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The report of the planning component should detail the planning procedure and finalise the proposal for funding. The proposal therefore should contain all the characteristics so far discussed.

- A detailed project proposal and budgeting statement outlining the goals, strategies, resources and timelines as well as the goals, outcomes and outputs and their appropriate indicators, measures and targets.
- Details of resources according to the project, the policy materials and the goals.
- An action plan for the project completely ready for implementation.
- Reports or recognition of alternative strategies and models.
- Reports on the suitability, appropriateness and comprehensiveness of the detailed action plan.

Cell 26: What should be the outcome of the project planning?

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

A detailed action plan that provides information about goals, indicators, measures and targets for the project should be developed by now. It needs to be sufficiently detailed that it can be implemented by someone not directly connected with its development and should be fully understood by the project assessment panel or peer review process. It should also be sufficiently detailed that when dissemination is involved, other agencies should be able to easily use the planning materials and adopt or adapt them as needed. The planning stage of a project is essential to the dissemination strategies and ought to be influenced by the project scalability. The reports and planning documents are essential parts for later dissemination.

- a) Identify and detail the major components of the project.
- b) Resources needed, such as ...
 - Money
 - Time
 - Space - accommodation
 - People staffing both project and support
 - Materials
- c) The resources linked to the goals.
- d) Indicators of outcomes and outputs; targets and resource allocation, coupled with goal statements leading to project budget and details.
- e) An informed community and support of all stakeholders.
- f) Ownership of the project by participants and clients.
- g) Commitment of all stakeholders to success in the plan.
- h) Cost feasibility of the project.

Review Questions on Project Planning and Implementation

The following questions may be relevant to the final report or to any further dissemination of information. They aim to elicit the factors that have been most influential in achieving the outcomes mentioned in the previous sets of questions and identify the most suitable means of encouraging further innovations.

1. Which factors were important in terms of planning and preparing the grant application?
 - (a) The identification of perceived needs and assessment of priorities?
 - (b) The choice of a program and the assessment of its likelihood in meeting perceived needs?
 - (c) The appraisal of likely cooperation of project team, colleagues, authorities, participants?
 - (d) The appraisal of physical facilities, materials and human resources, and realistic costings?
 - (e) The appraisal and feasibility of organisational aspects?
 - (f) The mode of presentation of project ideas, plans and application to appropriate persons in the group?

2. Which factors were important in the initial implementation of the project?
 - (a) Choice and availability of professional and ancillary staff?
 - (b) Choice and availability of facilities, materials etc.?
 - (c) Support of relevant persons and authorities?
 - (d) Allocation of sufficient time and funds?

3. Which factors were important in monitoring the ongoing process of the project?
 - (a) Continuing relevance on the innovation, appraisal of changing needs?
 - (b) Flexibility of organisational strategies (if adoption became desirable or necessary)?
 - (c) Acceptability of materials, procedures etc. to team and to participants?
 - (d) Durability of equipment, materials, etc.?
 - (e) Effectiveness of communications within the project and with concerned outsiders?

4. Which achievements should be reported concerning the project outcomes and feasibility in similar projects?
 - (a) Relative achievements in original or modified goals?
 - (b) Identification of benefits, not originally anticipated?
 - (c) Factors of the program which seem most relevant to the achievements?
 - (d) Likelihood of achievement transfer to other situations?
 - (e) Extent, worth of achievement in relation to effort, costs?

5. Which problems should be reported as having influenced the outcomes or which could affect the implementation of similar projects?
 - (a) Identification of problems, theoretical or practical?
 - (b) Reasons for problems: methodological or due to attitudes or competence of persons involved?
 - (c) Likely to transfer to other situations?
 - (d) Suggestions for overcoming problems?
 - (e) Ways of ensuring new program participants become aware of the potential problems?

6. How important is it to fund applications and what problems would arise if the funds were not available?
 - (a) Influence on the use of human resources, actual and motivational?
 - (b) Influence on use of facilities and materials?
 - (c) Possible sources of alternative funding?

7. What were the important features of the evaluative phases of the project?
 - (a) Availability of suitable test materials?
 - (b) Administration of appropriate evaluation materials?
 - (c) Recording of test results and interpretations?
 - (d) Formal surveys of opinions by participants and others?
 - (e) Objective observation of participants' reactions?
 - (f.) Maintenance of attendance and other frequency records?
 - (g) Encouraging and recording participants comments?

8. Which published research principles were appropriate for the outcomes evaluation in this project?
 - (a) Pre-test and post-test of relevant achievements?
 - (b) Comparison of achievement between participants and a suitable control group?
 - (c) Controlling for, or sampling from, different sub-groups (by age, grade, previous experience, different expectations.)
 - (d) Changes or differences being statistically significant?

9. What are the sources of possible bias in the evaluation of achievement outcomes?
 - (a) Involvement in an innovative program?
 - (b) Activity being specifically funded?
 - (c) Subjective evaluation by innovator and/ or associates?

10. Who were the suitable or desirable persons to be the evaluators for this project or for similar innovations?
 - (a) The innovator and/or associates?
 - (b) Aware but objective peers of the project team?
 - (c) A group of interested people from various (but relevant) backgrounds?
 - (d) Interested group to endorse "self evaluation" by project director and team?
 - (e) The actual participants?
 - (f) The institutional superiors of the project team?
 - (g) An evaluation expert nominated by the funding authority?
 - (h) An evaluator expert nominated by the program team?

11. What is a suitable mode of presentation of reports concerning the project?
 - (a) For accountability to the funding authority?
 - (b) For dissemination of information to others? (Some funding authorities may wish reports to be suitable for one or other or both. This needs to be determined in advance).
 - (c) Descriptive statements of aims, methods and actual outcomes?
 - (d) Comparison of intended and observed outcomes with suggested reasons for differences and other audiences?
 - (e) Incorporation of cost/effort effectiveness?
 - (f.) Incorporation of products, reports by participants?
 - (g) Illustration of project activities by static visuals (Photos, charts, transparencies, etc., tape recordings, videos, movies, audio visuals)

12. What is the desirability of providing reports to groups outside the funding authority (educational journals, resource centres, etc.)?
 - (a) To provide documentary evidence and records of a completed project?
 - (b) To share ideas with others intending to initiate similar innovatory projects, with and without funds?
 - (c) To encourage further innovations in any related areas?
 - (d) To influence slow but continuing improvement in educational practice?
 - (e) To exert strong influence for radical changes in educational practice?

COMPONENT 3: MONITOR THE IMPLEMENTATION

Formative evaluation, through close monitoring, needs to be conducted while the project activities are going on. It provides information for program decisions, maintains a record of procedures, and helps to detect possible flaws in the project design or in the way it is being implemented. In so doing, the evaluation can make use of a variety of techniques that are listed below.

Formative evaluation helps to study both pay-off and process criteria in order to fully assess the system, program, school or agency that is being evaluated. Formative evaluation provides the possibility that program can be changed completely. Many times it is not until the process evaluation is actually underway that it is discovered that the model and the program are not compatible. Six types or approaches to monitoring and formative evaluation of projects are described below.

1. **Monitoring**

This is continuous in the evaluation process and focuses on specific tasks and components of the project. Its purpose is to check whether the tasks are being done according to the action plan, which in practice needs to be developed during the planning phase.

2. **Component Evaluation**

This focuses on critical sections of the action plan and sets up evaluation and feedback cycles. For example, if scheduling is a component of a project, an intensive evaluation of this might be conducted over a period of time to establish feedback routines. Component evaluation is the most demanding, but it can be simplified if there are only one or two critical components identified in the plan. If the organisational change is involved, there may be a need for staff development materials. All projects consist of components. Each component requires a different type of monitoring and evaluation. Staff is an important source of data.

3. **Problem Study**

This strategy finds out the problems involved in implementing the project. There may be circumstances where it is better to develop specific instruments for specific projects. It is usually coupled with a benefit study to avoid engendering a negative mind set.

4. **Benefit Survey**

A benefit survey concentrates on identifying both unanticipated and intended benefits of the project. The objectives should indicate the initial benefits. If the benefit survey is conducted too soon, the staff will only cite the objectives as the benefits or outcomes and will not detail additional, unintended benefits. For example, if the project is large and public relations oriented, then the key people may have had career advancement as a side benefit. Monitors and evaluators need to be wary of the objectives being restated as benefits or outcomes without evidence.

5. **Status Survey**

This is used to determine the rate of progress in implementing the program using the planned rate as a benchmark. It is also necessary to regularly monitor the progress towards the intended outcomes. If student achievement were one of the goals for instance, then regular, but infrequent assessments by teachers would be necessary.

6. **Levels of Implementation**

Implementation is not always a report of what has been done in a program. Where teaching and classroom practices are part of a cage for instance, the implementation and use of procedures and materials by staff cannot be assumed. This needs to be identified and monitored, usually by a project manager or better still be an external evaluator, depending on how large and complex the project is. This addresses the extent to which individual staff is using the components of the planned innovation and program. By monitoring the staff use and involvement in the program, the actual implementation of the project can be assessed. If surveys are used, then the instrument should gather information on the staff perception of implementation. It is important to make this distinction and to validate the staff perceptions. The innovation configuration helps to define the nature of the overall innovation as implemented.

Cell 31: ***What should be monitored in the project implementation?***



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The project action plan developed in Component Two should have detailed the project and all its components. The project and its detailed plan now need to be implemented and monitored throughout the life of the project. The following aspects of the project need to be documented and people assigned to monitor each of them as far as they are relevant to the project implementation. The monitoring process should focus on the following:

- a) The progress of each component of the project
- b) Project configuration and development
- c) Professional development programs for all staff involved
- d) Timelines - Gantt chart or Pert charts
- e) Resources use and supply
- f) Problems and benefits for the staff, participants and clients
- g) Achievement of targets within timelines
- h) Concerns of the staff
- i) Levels of implementation of the plan by various staff
- j) Appropriateness of goals, indicators, targets
- k) Status with respect to goals and targets
- l) Participation of clients and staff
- m) Perceptions of clients and staff

Cell 32: Who should be involved in monitoring the project implementation?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Monitoring

- a) The review committee
- b) Area or level coordinators in schools
- c) Welfare staff
- d) Evaluation staff both internal and external
- e) Clients (in schools, students and parents)
- f) Project staff
- g) Those responsible for key components in the action plan
- h) Consultants

Component Evaluation

- a) Area or level coordinators in schools
- b) Evaluation staff both internal and external
- c) Clients (in schools, students and parents)
- d) Project staff
- e) Those responsible for key components in the action plan
- f) Consultants

Problem and Benefit Studies

- a) Area or level coordinators in schools
- b) Welfare staff
- c) Evaluation staff both internal and external
- d) Clients (in schools, students and parents)
- e) Project staff
- f) Those responsible for key components in the action plan
- g) Consultants

Status Survey

- a) Area or level coordinators in schools
- b) Evaluation staff both internal and external
- c) Clients (in schools, students and parents)
- d) Project staff
- e) Those responsible for key components in the action plan
- f) Consultants

Level of Implementation Survey

- a) Evaluation staff both internal and external
- b) Clients (in schools, students and parents)
- c) Project staff

Cell 33: How should the implementation be monitored?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Component evaluation is generally applied to the design and development of MATERIALS, but may be applied to organisational change and staff development. Component evaluation proceeds through a series of cycles. The cycles are called 'Design', 'Try', 'Collect' and 'Revise'. The process parallels action research. These can best be conducted using a range of techniques such as:

- a) Action research
- b) Maintaining log books
- c) Diaries
- d) Component evaluations
 - Design
 - Try
 - Collect
 - Revise
- e) Problem and benefit surveys from participants and clients
- f) Status surveys to determine overall levels of progress
- g) Staff surveys of concerns
- h) Individual levels of use of the new project
- i) Examination of administrative records

—

Cell 34: When is the implementation monitored?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

It is important to use procedures to monitor throughout the life of the project as it is implemented so that timelines, resources and materials are obtained as soon as they are needed.

- a) **Action research** is continuous throughout the implementation. Various problems and approaches can be approached through the stage of action research used as a reflective improvement procedure.
- b) Maintaining **log-books** should be continuous throughout the implementation.
- c) **Status surveys** are conducted after several months to allow effects to become evident. They should always allow some gains to be made.
- d) **Problem surveys** are conducted early but care needs to be taken to prevent negative attitudes. Problem surveys after the initial one are always accompanied by benefit surveys.
- e) **Benefit surveys** are conducted after considerable time has elapsed.
- f) **Component evaluations** are used to develop the components during or before their implementation.

Cell 35: What should be reported as a result of monitoring the implementation?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Formative evaluation reports are essentially internal to the project team. This is not to say that internal members of the project team should produce all formative valuation reports. External reviewers, members of the Secretariat or funding agency can produce reports, but they are all focussed on improving the project and assisting to reach the goals. The reports should focus on:

- a) Changes in the original plan
- b) Refinements to the success indicators and targets
- c) Adjustments of goals and change objectives and policy
- d) Resource usage for each component of the policy implementation
- e) Staff and client involvement indicators in the policy implementation
- f) The specifications of the project and the context in which it operates
- g) Problems and unanticipated benefits
- h) Recommendations for other agencies contemplating similar policies
- i) Strengths and weaknesses of the project
- j) Likely causes of project failure
- k) Essential features of the project for success
- l) Indicators of project success
- m) Achievements of goals at intervals of implementation

—

Cell 36: What should be the outcome of Monitoring the Implementation?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
→ Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Formative evaluation procedures used during the implementation stage of the project can be used to ensure the success of the project. If it is successful, then the following should be achieved.

- a) Determination of how well the policy/ project is being implemented
- b) Refined project plan
- c) Evaluating the indicators, targets, measures and benchmarks
- d) Refining components
- e) Involving staff/ clients in the project
- f) Identifying weaknesses and strengths of the project
- g) Documentation of project development and components
- h) Achievable targets
- i) Ownership of the project by participants
- j) Changes in the original change objectives
- k) Adjustments in the goals
- l) Adjustments to the policy statements
- m) Knowledge of resource usage for each component
- n) Informed stakeholders

—

Questions on the Implementation of the Project

Questions in this section are mainly oriented towards the monitoring of ongoing progress towards the achievement of project goals. They may identify the need for, or interim effects of, any changes in approach. In any event, diary records of the project transactions would be valuable for ongoing reports and might be useful for identifying factors, which have been significant in influencing the final outcome.

1. What is the nature of the program that was actually implemented?
 - (a) Does it differ from the desired program?
 - (b) Does the program continue to be relevant to the original needs? To changing needs?
2. How are the participants grouped?
 - (a) How many groups are there?
 - (b) How many per group?
 - (c) Grouping according to what purpose, according to what criteria?
 - (d) How are the groups distributed with reference to available facilities and staff?
 - (e) Is the grouping flexible? What regrouping is allowable and desirable? When?
 - (f) What have been the positive and negative results of the chosen groupings?
3. Is the program /project structured (into units, sequences, etc.?)
 - (a) Is the movement through the program random? Flexible? Fixed?
 - (b) Is the movement elected by students? Selected by staff? Why? How? According to what criteria?
 - (c) How is the scheme working?
 - (d) Have any problems been encountered?
 - (e) Are there any improvements which could be suggested or implemented?
4. What time is available for the actual program?
 - (a) How is this time allocated (across year, term, week, day etc..)?
 - (b) Is the time allocation and organisation satisfactory?
 - (c) Are there any better uses of time available?
5. What human resources are needed?
 - (a) What special skills and qualifications are needed?
 - (b) How are staff organised? Singly or in groups?
 - (c) Are they used as a teaching focus or as facilitators?
 - (d) What are the roles of ancillary staff and outside experts?
 - (e) What selection of training is necessary for staff?
 - (f) How and when is training organised?
 - (g) To what extent are participants acting as resources for other participants?
 - (h) Are there any problems with staffing (transfers, changing attitudes)?
6. What amount of time and effort the project team is expending?
 - (a) Is this what was expected? More? Less?
 - (b) Is this amount comparable with that expended previously on similar activities?
 - (c) How much professional time would be saved by using:
 - (i) para professionals?
 - (ii) a/v electronic or other equipment?
 - (iii) different forms of cooperation, organisations?
7. What physical and material resources are being used?
 - (a) How are the physical facilities being used? Any problems?
 - (b) Is there sufficient stability or access?
 - (c) What hardware is being used? How and Why?
 - (d) Is the quantity adequate? Is sufficient use made?
 - (e) Are users competent? Any problems with durability and maintenance?
 - (f) What benefits arise from the use of the hardware?
 - (g) What software is being used? How and why?
 - (h) Is quantity and quality adequate?
 - (i) Is replacement possible where appropriate?

- (j) Are supplementary materials necessary?
 - (k) Can these be obtained or developed?
 - (l) Have all available sources of materials been tapped?
 - (m) Are materials beneficial, educational, enjoyable?
8. What are the frequencies and types of communications concerning the project?
- (a) Between leaders and participants? Within the innovation team?
 - (b) Between innovators and colleagues?
 - (c) Between innovators and administrators?
 - (d) Between innovators and interested outsiders (e.g. parents)?
 - (e) Are these communications random or organised?
 - (f) Do they encourage interest and participation?
 - (g) Do they produce criticism, positive or negative?
 - (h) How is the feedback used constructively?
9. Are the funding details proving to be satisfactory?
- (a) Was the original request granted in full?
 - (b) Is the spending of grant money proceeding as scheduled?
 - (c) Were other non-grant resources forthcoming as expected?
 - (d) Any problems related to increased costs, staffing, materials?
 - (e) Any supplementary funding available (from local level, system, local government, outside resources)?
 - (f) Are financial records accurate and up to date?
 - (g) Do the benefits seem worth the cost?
10. Have there been any major changes to the overall project?
- (a) What are they? Why?
 - (b) Who influenced these changes?
 - (c) Who decided on the changes?
 - (d) Are the changes supported by the project team, participants, administrators and interested outsiders?
11. Are there any noticeable changes evident in participants?
- (a) Do these changes satisfy original needs?
 - (b) How were these changes monitored?
 - (c) Can these changes be considered as improvements? On whose values? With respect to what criteria?
 - (d) Are they gains which could be attributed to the maturing of the participants?
 - (e) Can they be directly related to the influence of the participants?
 - (f) Are there any unexpected changes? Are they beneficial?
 - (g) Are there negative reactions by the participants? Why?
 - (h) Are the relevant changes evident to people outside the project team? To the participants themselves?
12. What records are being kept on the project?
- (a) Are those records meaningful to the project team? To interested outsiders?
 - (b) Are they sufficiently objective? If subjective, are the value criteria clearly stated?
13. What are the progressive feelings and attitudes of the innovator and the project team?
- (a) Is the motivation still high?
 - (b) Are the time and the pressures of the project too onerous?
 - (c) Is there conservation of time, energy and resources by cooperative activity? By improved efficiency?
 - (d) Is the team more aware of the student's needs and difficulties?
 - (e) Does the team feel that they are developing professionally?

COMPONENT 4: IMPACT EVALUATION

Cell 41: *What is the focus of the Impact Evaluation?*

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The main reason for most, if not for all projects, is to improve and make changes. The change might be in people, procedures, materials, or in combinations of these. Change itself might not be sufficient. Many or most projects also aim to cause a lasting change beyond the project itself. It may be a lasting change over time. It might be that dissemination of the projects' processes, materials or even the goals spread well beyond the agency that receives the funds and develops the ideas into reality. This is what is meant by impact. Every project needs to identify the changes within its own boundaries and the extent to which the project can be scaled up and disseminated beyond the limits of the immediately funded program. In order to determine the impact of the project the evaluators need to focus on:

- a) Achievement of targets using measures defined in the planning stage or refined in the implementation stage of the project
- b) Cost benefit and efficiency
- c) Appropriate processes and implementation strategies
- d) Balance of total project
- e) Effectiveness of project
- f) Comparative effectiveness with other projects, agencies and peers
- g) Constraints on project
- h) Nature of the client group
- i) Successes and failures
- j) Likely dissemination strategies
- k) Relevance to other settings and contexts

Cell 42: Who should be involved in the Impact Evaluation?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
→ Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Given the potential for the evaluation to identify the possible scalability of the project, the personnel who could be involved in the evaluation of the impact would include those who are internal and external to the project.

- a) External evaluators
 - b) Funding agency staff (staff of the Secretariat)
 - c) Internal project administrators
 - d) Project participants – staff, clients
 - e) Community , parents, business interests, professional associations
 - f) Researchers and evaluators
 - g) Students, teachers and support staff
-

Cell 43: How can the Impact be evaluated?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
→ Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Usually an impact evaluation is summative in nature and involves formal and rigorous procedures. This is the reason in the previous cell for the nomination of professional researchers and evaluators. It also means that the proposal and the funding for the project need to include sufficient funds to make the impact evaluation affordable. The purpose of this type of evaluation is to establish that the project program is responsible for the outcomes. It is necessary to eliminate other explanations and allow the users of the program and the funding agency to be convinced that the program is indeed responsible for the changes. In order to achieve this, the impact study will need a great deal of expertise and rigour. The funding agency would need to ensure that this is carried out. The extent to which an impact study is needed, however, is dependent to some extent on the importance that the funding agency places on the investment made. Without question it is dependent on the explicit identification early in the project and what the outcomes are expected to be.

- a) Comparative studies with other similar agencies
- b) Comparison of achievement with targets and benchmark standards
- c) Comparison with published norms as appropriate
- d) Cost effectiveness studies
- e) Cost benefit studies
- f) Surveys of community reactions
- g) Survey data from client groups
- h) Control group or quasi/control group studies
- i) Experimental and quasi experimental studies

Cell 44: When should the Impact be Evaluated?



	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
→ Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

The appropriate timing for the evaluation of the impact is determined by at least four things.

- a) The implementation and monitoring data should indicate that the program has been fully and appropriately implemented.
- b) The client group should have had the opportunity to be affected by the project. This is based on the judgement of the project planners and on the status surveys conducted during the implementation stage.
- c) When constraints allow
- d) As required by external and/or funding agencies.

Cell 45: What should be reported about the Impact Evaluation?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
→ Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Clearly the most important things to report about the program involve the changes that were planned. These should be reported in terms of the measures identified in the planning and proposal stage. However, the changes need to be understood in the context of the overall program and hence other things need also to be reported. The following might be reported:

- a) Resource consumption
- b) Cost effectiveness
- c) Cost efficiency
- d) Targets achieved
- e) Targets not achieved
- f) Constraints on the project
- g) Changes in the client group
- h) Changes in the project staff
- i) Changes in the organisation
- j) Changes to policy
- k) Decisions about project development.

Cell 46: What should be the outcome of the Impact Evaluation?

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
→ Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Given that the impact evaluation is summative, then final decisions need to be made regarding the extent to which the project needs to be revised, recycled or abandoned. The report should provide information that can be used for a review of the program and an evaluation of the goals. It is also necessary to be clear about whose decision it is to continue, disseminate or abandon. Certainly the project leaders must be involved. This is dealt with in more detail in the next section.

Questions Addressing Issues related to Project Outcomes

The questions in this section are mainly relevant to the final evaluation of the project in terms of the achievements of participants and the influences of procedures and products. Many of these questions will have been considered during the whole project, but are included in the section to avoid repetition. Equally many aspects relevant to the final evaluation have been outlined previously.

1. What cognitive achievements have the participants displayed?
 - (a) General or specific abilities? Which ones?
 - (b) Perceptual skills: visual, aural other?
 - (c) Communication skills: oral, reading, writing, illustrative?
 - (d) Inquiry, knowledge, discovery, comprehension, application?
 - (e) Problem solving, research, evaluation, creativity?
2. What psychomotor and manipulative skills have been developed?
 - (a) All round development or specific skills? Which ones?
 - (b) Gross motor co-ordination, strength, endurance?
 - (c) Fine motor coordination, aesthetic factors?
3. What affective changes have participants displayed?
 - (a) Exposure to or awareness of worthwhile activities?
 - (b) Desire for involvement, initiatives, perseverance?
 - (c) Independent activity, autonomous decision making?
 - (d) Awareness of flexibility towards, issues in modern society?
 - (e) Appreciation of cultural, environmental aspects?
 - (f) Enrichment of present and future living and leisure?
4. What changes in socialisation have participants displayed?
 - (a) Harmonious interactions with persons of similar or different ages, backgrounds, etc. with persons less fortunate, capable etc.?
 - (b) Development of organising skills, leaderships etc..?
5. What other perceivable outcomes for participants have been noted?
 - (a) Less complaints or apathy (for compulsory activities)?
 - (b) Increased demand for service or product?
 - (c) Increased attendance or application (elective activity)?
 - (d) Enjoyment or enthusiasm during the activity?
 - (e) Sustained interest, desire to become more proficient?
6. What outcomes have been perceived or recorded for innovative organisational procedures or innovative hardware/software?
 - (a) Immediate demand? Long term demand?
 - (b) Suitability for task, for user?
 - (c) Approval for users, user motivation, actual usage?
 - (d) Quality adaptive flexibility, accessibility?
 - (e) Effectiveness, economy, reasonable cost?
7. What outcomes have been observed and recorded by outside persons or groups who are aware of the project?
 - (a) Increased attendance, interests, moral support?
 - (b) Increase in practical support, funds, materials, involvement?
 - (c) Stimulation to replicate innovation or to innovate in other areas?
8. What outcomes have ensued for the project leaders, teams and others closely responsible and involved?
 - (a) Increased motivation to continue a similar program?

- (b) Increased desire to develop further innovation?
- (c) Increased interest in professional development?
- (d) Increased likelihood of the rate of professional advancement?
- (e) Conservation of energy, time, resources? Through cooperative activity? Through efficiency of effectiveness of personnel?
- (f) Increased understanding of students' personalities, strengths, weaknesses, and difficulties?

COMPONENT 5: REPORTING THE CYCLE OF EVALUATION

The report component is a public one. Its major purpose is dissemination. It details the communication of the project, its development, resourcing and evaluation to stakeholders. Stakeholders include the project participants and the staff but also extend to external audiences. Internal reporting to project participants only occurs during the monitoring of the implementation. Reporting has specific purposes and the agency should have clear purposes for each report issued. The reporting strategy needs to be the most effective for each audience and should aim to achieve a specific and explicit purpose. This component assesses the effectiveness of the reporting strategy in terms of its purpose, its delivery and effectiveness.

Cell 51: *What should be the Purposes of Reporting?*

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

Recalling that the major reason for the reporting is dissemination, the audiences for the reports should be chosen to maximise this goal. However, there are others who need to be informed. The purposes of this component include:

- a) Informing stakeholders
- b) Fulfilling contracts with funding agencies
- c) Seeking resources for extension of the project or for replication
- d) Gaining support for the funding agency
- e) Disseminating successful practices to other relevant agencies
- f) Accounting for resource consumption
- g) Documenting the agency development
- h) Publicising the achievements of participants
- i) Improving the public image of the agency
- j) Increasing public confidence in the system
- k) As a defense against inaccurate reporting by third parties
- l) Setting a proper context for interpreting the achievements of the agency
- m) Facilitating meta-evaluation at system levels

Cell 52: Who should be involved in reporting the cycle?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

→

There is a need to distinguish between the people who are involved in developing the variety of reports and those who receive the reports. As the reporting strategy is defined, both the writers of the report and the audience need to be defined. The audiences for reports can be:

- a) Administrators
- b) External evaluators and consultants of other projects
- c) Government and government departments
- d) Community groups
- e) Clients or those affected by the project
- f) Project staff
- g) Media
- h) Auditors
- i) Funding agency

The authors of reports can be:

- a) The funding agency
- b) Project staff
- c) Project management and leadership
- d) Researchers and evaluators
- e) Government agencies

Cell 53: How should the cycle be reported?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
→ Report	51	52	53	54	55	56

There is a range of approaches to reporting. It is not always in written form and not always on paper. Reporting can be achieved via:

- a) Completion of standard proforma as provided by the funding agency
 - b) Electronic data transfer
 - c) Internet web sites and documents
 - d) Evaluation/research papers
 - e) Verbal presentations
 - f) Public addresses
 - g) Newsletters
 - h) Medial releases
 - i) Published prospectus
 - j) Policy documents
 - k) Audio/visual presentations
 - l) Annual reports
 - m) Conference presentations
 - n) Exhibitions
-

Cell 54: When should the cycle be reported?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
→ Report	51	52	53	54	55	56

The timing of reports depends on the nature of the information and when it becomes available. Reporting should be considered continuously as it pertains to the stakeholder and audience needs as well as the dissemination strategy planned in the earlier stages of the project.

- a) As contracted with funding agencies in the plan
- b) According to reporting schedule established in the plan
- c) At target stages in the project
- d) Annual formal reports
- e) Regular and frequent newsletters
- f) Continuous through meetings with clients

Cell 55: What should be reported about the cycle?

↓

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
→ Report	51	52	53	54	55	56

A strategy for reporting on reporting is an important stage in the cycle. The nature of the report should be related to the objectives of the project and the dissemination strategy. The overall report of the project might address influences, such as the following:

- a) Strategies and procedures used for reporting
- b) Purposes and audiences for reporting
- c) Expected and achieved impact of reporting
- d) Changes to the original goals
- e) Changes to the policy
- f) Changes in the implementation plans needed to increase impact
- g) Cost efficiency and benefits
- h) Methods of assessing needs
- i) Indicators of meeting needs
- j) Impact of the project
- k) Processes of the project
- l) Resources allocated and adjustments
- m) Nature and extent of reporting
- n) Audiences identified and informed
- o) Reports delivered
- p) Effect of reports
- q) Feedback from audiences
- r) Requests for copies of reports
- s) Costs of producing reports
- t) Effectiveness of reporting process in gaining resources for the policy
- u) The purpose of reports
- v) Strategies used in developing a range of reports
- w) The nature of the information reported to various audiences

Cell 56: What is the Outcome of Reporting the Cycle?

	What	Who	How	When	Report	Outcome
Review	11	12	13	14	15	16
Plan	21	22	23	24	25	26
Implement	31	32	33	34	35	36
Evaluate	41	42	43	44	45	46
Report	51	52	53	54	55	56

This is the 'bottom line' of the evaluation and the implementation of the project. In essence the impact of the report should be the dissemination of the project, the scaling up of the idea and the professional acceptance of the approach. This is the criterion by which the idea, the innovation and the project can be judged. There are some procedural outcomes but the most important involves the impact of the report on the community, the profession and the nature of education itself. Some projects will have no impact outside their specific application and the effect even on the agency that developed the idea will fade with time. Others will affect practices worldwide. Most will fall within this range and most will fall towards the agency focussed and restricted activity. However, they all need to ensure that there are the following:

- a) Completion of annual reporting requirements
- b) Accountability to funding and administration agencies
- c) Accountability to client groups
- d) Completion of review/ evaluation cycle
- e) Informed community, clients, staff and other vested interests or stakeholders.
- f) Documentation on which the new cycle can begin
- g) Modification of the agency policy
- h) Modification of system plans and priorities
- i) Increased confidence of stakeholders
- j) Informed policy development at other levels of the system
- k) Documentation of agency improvement
- l) Achieved reporting purposes
- m) Take up of program by similar organisations
- n) Modification of project format by similar agencies
- o) Dissemination and publication of project components

Questions related to Reporting

The questions in this section are mainly relevant to the final evaluation of the project in terms of the achievements of participants and the influences of procedures and products. Many of these questions will have been considered during the whole project, but are included in this section to avoid repetition. Equally many aspects relevant to the final explanation have been outlined in earlier sets. The questions like the other sets have been adapted from the checklist of the Modern Teaching Methods Association.

1. What cognitive achievements have the participants displayed?
 - a) General or specific abilities? Which ones?
 - b) Perceptual skills: visual, aural, other?
 - c) Communication skills: oral, reading, writing, illustrative?
 - d) Inquiry, knowledge, discovery, comprehension, application?
 - e) Problem solving, research, evaluation, creativity?
2. What psychomotor and manipulative skills have been developed?
 - a) All round development or specific skills? Which ones?
 - b) Gross motor co-ordination, strength, endurance?
 - c) Fine motor co-ordination, aesthetic factors?
3. What affective changes have participants displayed?
 - a) Exposure to, awareness of worthwhile activities?
 - b) Desire for involvement, initiative, perseverance?
 - c) Independent activity, autonomous decision making?
 - d) Awareness of, flexibility towards, issues in modern society?
 - e) Appreciation of cultural, environmental aspects?
 - f) Enrichment of present and future living and leisure?
4. What changes in socialisation have participants displayed?
 - a) Harmonious interactions with persons of similar or different ages, backgrounds etc., with persons less fortunate, capable, etc.?
 - b) Development of organising skills, leadership etc.?
5. What other perceivable outcomes for participants have been noted?
 - a) Fewer complaints or apathy (compulsory activity)?
 - b) Increased demand for service or product?
 - c) Increased attendance or application (elective activity)?
 - d) Enjoyment, enthusiasm during activity? e) Sustained interest, desire to become more proficient?
6. What outcomes have been perceived or recorded for innovative organisational procedures or innovative hardware/software?
 - a) Immediate demand? Long-term demand?
 - b) Suitability for task, for user?
 - c) Approval of users, user motivation, actual usage?
 - d) Quality, adaptive flexibility, accessibility?
 - e) Effectiveness, economy, reasonable cost?
7. What outcomes have been observed and recorded by outside persons or groups aware of the project?
 - a) Increased attendance, interest, moral support?
 - b) Increase in practical support, funds, materials, involvement?
 - c) stimulation to replication of innovation, or of innovation in other areas?

8. What outcomes have ensued for the project leaders, team and others closely responsible and involved?

- a) Increased motivation to continue similar program?
- b) Increased desire to develop further innovation?
- c) Increased interest in professional development?
- d) Increased likelihood of the rate of professional advancement?
- e) Conservation of time, energy, resources?
 - Through cooperative activity?
 - Through improved efficiency of effectiveness of personnel?
- f) Increased understanding of students' personalities, strengths or difficulties?

Part II

Classification, Output and Outcome Measures for Projects funded by the Quality Education Fund

PART II CLASSIFICATION, OUTPUT AND OUTCOME MEASURES

INTRODUCTION

International foundations regard evaluation as an important stage in the implementation of projects. Very often, a project proposal must include a detailed evaluation plan, and assessment of the plan is part of the selection criteria. The Technology Literacy Challenge Funds (TLCF) in the United States, meant for funding schools to quicken the implementation of state-wide educational technology plans in order to reach the National Education Goals, requests the applicants to include in their proposal a plan for evaluating how the technologies acquired from the fund can be used to promote student achievement and progress towards meeting the National Education Goals. The Alberta Initiative for School Improvement (AIS) in Canada specifies that a school applying for funding should include in the proposal provincial and local measures as indicators of success for the project. They are encouraged to develop measures to reflect the unique nature of both their local circumstances and the evidence of improvement. The use of appropriate measures or indicators of performance is one of the criteria for project approval (p6 and p11 AISI Framework). Another funding foundation in Canada, the Manitoba School Improvement Program (MSIP) believes that asking schools to be the "owners and doers" (http://www.sunvalley.ca/msip/3_evaluation/3_consultant.html, p1) of their own evaluation processes is very effective in stimulating and sustaining significant school improvement. Whether funding should be continued for a multi-year project, in many grant agencies overseas, is dependent upon the evidence of success obtained from evaluation.

It is true that different stakeholders evaluate the same project for different purposes and hence seeking different information. The funding agency wants to find out whether it is getting its 'money's worth'; the project leaders may want to know whether the project is progressing as scheduled and whether it can be completed on time. The teachers may want to know how far the project has met its targets. The parents may want to know whether the project is helpful to the students. Different stakeholders may focus on or emphasize at different aspects of the same data and derive different measures or indicators suitable for their purposes.

People need evidence beyond statements like " we are making progress" or "more students are participating" . People would like to know whether these statements are the view of one person or of a group of persons. It is informative to tell how many persons think this way and how many think otherwise. The statements are more convincing if people are told of the evidence leading to the statements and how this evidence is gathered. We need to have measures to highlight those aspects of the data which lend themselves as evidence. All these require a carefully designed evaluation plan for collecting the relevant data, and choosing the appropriate indicators and measures.

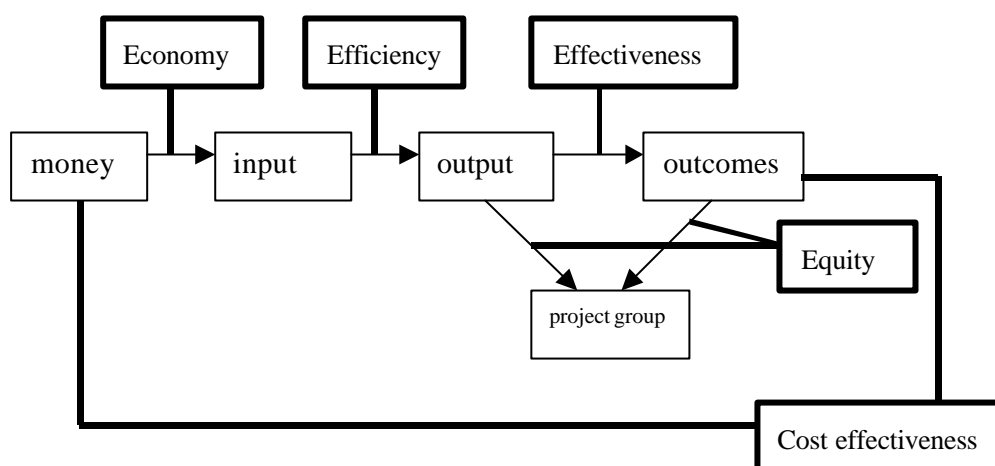
SOME TERMS ON EVALUATION

To help identify which information to gather for a given evaluation purpose, it is useful to distinguish the terms input, output and outcome as related to a project. Input refers to the resources (human, material or others) necessary for the implementation of the project. Output refers to the direct products and results obtained from the projects. Outcome refers to the actual value and impact of a project on the students. If the library resources are improved through purchasing a new set of books using a given sum of money, the input will be the set of books bought with the sum of money. The output could be the number of times books are borrowed and the average duration for each transaction or the existence of a reading program for pupils. The outcome could be how useful the books are to the borrowers and how much change was observed in reading habits of pupils. The Audit Commission in UK (Audit Commission, 2000) defined four aspects of measuring performance relating to input, output and outcome and the students, (the 4 Es):

- (1) **Economy** is how well the acquiring of resources appropriate to a project is done. Usually it is desirable that the appropriate resources could be procured at the lowest cost.
- (2) **Efficiency** is how well the resources for a project are used to develop the output.
A project is efficient if the maximum output is derived from a given set of resources or the same quantity of output or input can be obtained from a minimum of resources.
- (3) **Effectiveness** is how well a project achieves what it intends to do. This is measured by how far a project has attained its objectives.
- (4) **Equity** refers to the degree to which the benefits of a project are accessible to every student involved.
- (5) There is also a tendency to examine **cost effectiveness**, how outcomes are related to the money invested on a project; that is the return on investment.

Based on these distinctions, Figure 1 shows the relationship between different measures of performance.

Figure 1. Measure of Performance on Input, Output and Outcome



There are several terms related to project evaluation that need to be defined here.

“Goals” spell out what a project is set to achieve. A project may have several goals. One way to determine the success of a project is to check whether the goals established at the beginning of the project are met.

“Indicators” are statements describing change that reflects progress made on a specific aspect of a goal. They have at least three components: (i) specifying the target group, (ii) stipulating the direction of change, and (iii) defining evidence from which it is possible to infer information regarding non-observable project outcomes.

“Benchmarks” are targets set with reference to goals. They represent a desired standard that a project should reach in making progress towards a goal.

A **“measure”** provides evidence of how close one is to achieving a benchmark or goal. A measure is an observable piece of evidence of an output or outcome. However, the terminology is not standard. Some people use “indicator” and “measure” or even “evidence” as though they are equivalent.

Here are some examples:

Goal: Improving the reading abilities of the students in Grade 5.
 Indicators: Grade 5 students have better reading skills.
 Measure: Reading test scores at the schools or in public examinations.

Goals: Improving the teaching qualifications of teachers
 Indicators: Higher qualification for teachers,
 Measures: Number of teachers qualified with a diploma of teaching, or completing bridging courses

Measures need to support indicators and inform the stakeholders about the progress made towards a specific goal. Thus, depending on the purposes, we have to decide which

indicators are to be used. We may be looking at the outcome indicators or the input indicators. In some funding programs, performance measurements, developed as indicators, are used to monitor three stages of a project: the project inputs, project outputs and the project outcomes. At times, for different purposes, we may need to use an indicator that can inform us of a particular relationship. An efficiency indicator tells the relationship between input and output. An effectiveness indicator, on the other hand, relates the project outcome to the output. In measuring the performance of councils and local governments, the Australian Industry Commission recommends the use of efficiency and effectiveness indicators. More will be said on how these terms are related to one another in the later sections.

REVIEW OF THE QEF SITUATION

The Audit Commission Report, 2001 was concerned about the over emphasis on input measures. "QEF indicators are focussed on assessing project inputs (e.g. use of resources, capital items purchased, number of reports issued or seminars held) rather than project outputs and outcomes (e.g. whether the project delivers to recipients the intended real benefit?). The QEF appears to assess value for money in a different way to that employed in advanced countries that could be regarded as using 'best practice' " (Audit Commission Report, 2001, p39). A review of project proposals shows that, while many have detailed plans for budgeting and project implementation, few provide well-designed evaluation plans that lead to output and outcome measures.

This is consistent with the information obtained in this consultancy from the focus groups with the external reviewers, the expert reviewers, members of the Assessment Subcommittee and members of the Promotion and Monitoring Subcommittee. There is a feeling among some members that assessment of the QEF projects is difficult because there is a lack of clarity in the project goals. Most of the goals are not expressed in observable behavioural terms and are not measurable. Accordingly this leads to a shortage of data for output and outcome measures resulting in difficulty in judging how well the project goals are met. Members from the secondary school sectors said that teachers usually lack the knowledge and skills needed to write a well-designed and feasible evaluation plan. They are not encouraged to obtain professional help. The heavy workload in the schools also makes it difficult for them to spend adequate time on a proposal.

The Manitoba School Improvement Program MSIP believes that schools should be the "owners and doers" of their own evaluation processes and regards this practice as very effective in stimulating and sustaining significant school improvement (http://www.sunvalley.ca/msip/3_evaluation/3_consultant.html, p1). Positive feedback from the teachers has been reported. Using data in evaluation cultivates an inquiry-mindedness among the successful schools. Instead of being in awe of data, as in the past, teachers use data to support their thinking and planning. They think in terms of data, argue with the help of data, and derive meaning out of data.

PROJECT CLASSIFICATION SYSTEM

Having a system of classification for the projects is a convenience for different parties in administration, management, monitoring, evaluation and dissemination. While the projects have certain features in common, different types of projects do have different characteristics that warrant particular attention and special consideration in the development process from the stage of proposal in applying for funding to the stage of dissemination on completion.

The current classification system has been working for several years and no major problem has been reported.

- (1) The QEF secretariat has been using it for a number of years. The catalogue system in the resource centre was built upon this classification system. The search system using keywords was also based on the same system. Changing to another classification system may require redesign of both the catalogue system and the search system.
- (2) The schools have been following the classification system for a number of years in their activities related to their projects. They are familiar with the system.
- (3) The current system works for a number of general purposes. Though it may be possible to have a better classification system for a particular purpose, a better system for one purpose may not work as well.
- (4) Changing to another system may take some time given that there is a considerable number of “live” projects classified under the current system. Waiting for these projects to be completed may take two or three years.

In the application form for the fifth call, documents and material applicable to all projects were put in the main text while particular matters related to special project types were placed as annexes to the explanatory notes. In the following sections, a methodology is presented that applies to projects in general.

TWO INTERNATIONAL EXAMPLES

In the Manitoba School Improvement Program (MSIP), the success of a project is measured by the extent to which a school has achieved its goals. Because of the uniqueness of each school, the success of each project is evaluated using a modified Goal Attainment Scaling (GAS) procedure (Kirusek, 1976). Schools determine their own goals at the beginning of the projects and then review them on completion. The degree to which the project goals were met is inferred *from data collected* by various methods such as interviews, focus groups and questionnaire.

Evidence of success in reaching the self-determined goals is summarized in a rating scale named the Goal Attaining Scale (GAS). This is a four-point scale with each point defined as:

- "1" no evidence of progress towards the goals of the project
- "2" evidence of progress towards the goals of the project
- "3" evidence of successful achievement of the goals of the project; and
- "4" evidence of having exceeded the goals of the project

Table 1 is used to show the progress of a school towards meeting four of the project goals.

Table 1. Goal Attaining Scaling Process
(Manitoba School Improvement Program)

School goals	"1" No evidence	"2" Evidence of progress	"3" Evidence of success	"4" Evidence of benchmark exceeded
A				
B				
C				
D				

A median score is used to describe the school success across project goals. There are also verbal descriptions on the progress of the schools. Table 2 is an extract from the Evaluation of the Manitoba School Improvement Program (Earl & Lee, 1998). The names of the schools are hypothetical.

Table 2. Overall Goal Attaining Performance
(Manitoba School Improvement Program)

School	Number of Goals	Median success rating	Comments
Riverdale	4	2	In this school, the focus was on changing student learning and programs for students. There was evidence of progress towards some of these goals.
Bayside	4	3	Two of the goals in this school were fairly specific and seemed to have been achieved. The other two goals were more broad-based and there was evidence of progress in one and none in the other.

In the Technology Literacy Challenge Fund (TLCF) in United States, the fund seeks to quicken the implementation of state-wide educational technology plans so that schools in the state can meet the four National Education Goals. Each state has to set its own targets with reference to the four national goals.

Table 3 is an extract from the TLCF Performance Report as related to the First National Goal that all teachers will have the training and support needed to help all students learn through computers and through the information superhighway. The first column shows how a state might set its own goal that 50% of the teachers in every school building in all the districts within the state will be trained on instructional applications of the internet. The second column shows how information on the percentages of teachers trained can be obtained. The target to be met at the end of the funding period is shown in the fifth column. The third and the fourth columns give the data from the biannual census in 1997 and 1999. The data shows that progress is being made.

Table 3. Progress Towards the Goals
(Technology Literacy Challenge Fund)

State goals	Measure/ Method of collecting and source	Date and baseline status	Date and current status	Five-year State goal (due 09/30/02)
50% of the teachers in every school building in the districts will be trained on instructional applications of the internet.	Biannual technology census	1997 census: 27% of the school buildings meet the goal	1999 census: 41% of the school buildings meet the goal	All buildings meet the goal

There are similar tables for each of the stated goals. The TLCF Performance Report also have tables leading to input and output indicators and measures. Table 4 shows the funding input and Table 5 the output.

Table 4. The Funding Input
(Technology Literacy Challenge Fund)

Source	Amount	Period available	Status	Purpose and restrictions

Table 5. Impact of the Funding
(Technology Literacy Challenge Fund)

(1) primary uses of TLCF award	(2) Grade levels primarily impacted	(3) content areas primarily impacted	(4) Number of students impacted	(5) number of teachers impacted
Professional Development	6-8	Science	750	15

In addition to the progress towards the goals, there are other areas that a grant agency may examine, depending on the funding principle. For example, the goal of the Manitoba School Improvement Program is "to improve the learning experiences and outcomes of secondary school students, particularly those at risk, by building schools' capacities to engage students actively in their learning." (Manitoba School Improvement Program Strategic Plan, 1995). Hence the foundation is interested in measuring how those aspects of the schools and those aspects of the students are related to learning. One example is student engagement, which is expressed in two dimensions: first is the students' relationship with the learning environment provided by the schools, and second is students' relationship with their own learning. The first addresses the schools' capacities in providing a positive atmosphere and appropriate facilities for students' learning. The other is on students' attitude to their learning. Both are related to the goal of the MSIP. MSIP lists out a number of indicators and their sources, which can provide information on these two dimensions. These are set out in Table 6. A rating scale similar to the GAS above is used for measuring students' engagement.

Table 6. Indicators and Measures for Student Engagement
(Manitoba School Improvement Program)

Dimensions of student engagement	Indicators/Measures	Ways of collecting data
1. Relationship with their learning environment	More participation More student voice More friendly atmosphere at school Better relationship with teachers School rating by students School rating by high-risk students Rating of positive changes in the school by students	Student questionnaire Student focus groups Teacher focus group Interviews (coordinators, principals)
2. Relationship with their own learning	Relevance of courses or curriculum More interest in courses or curriculum Increased responsibility for learning Increased confidence in ability to succeed Higher motivation to learn	

(p17, <http://www.gordonfn.ca/resfiles/MSIP-evaluation.pdf>)

The evaluation of projects carried out by the various grant agencies illustrates a definite sequence of steps. They are:

- (1) Establish a set of goals for the project.
- (2) Specify indicators by listing observable changes that address different aspects of a goal.
- (3) Search for measures that can provide evidence on the changes as stipulated in the indicators.
- (4) Collect data for these measures.
- (5) Analyze the data to conclude whether targets have been met.

ESTABLISHING THE PROJECT GOALS

All the QEF projects have one goal: to improve the quality of teaching and learning. Improvement is a change in the positive direction. Changes can only be made on variables (something that can vary). A project on reading proficiency aims to change the variable of reading ability. A project on effective learning may aim at changing a number of variables related to the students' learning. They could be the students' knowledge on a subject, the students' cognitive and metacognitive skills or the students' attitude towards a subject. The identification of the variables that will be changed is the first important step in designing the implementation and also the evaluation of a project. Such identification can be made by examining the current situation before project implementation. Examination may reveal certain areas where there is an urgency to change and also suggests what the desired situations for these areas are.

The following example is modified from the Alberta Initiative for School Improvement (AIS) Coordinator Workshop on evaluation:

Example 1

Current Situation

- Many students have unhealthy lifestyles and this interferes with their devotion to learning.

Desired Situation

- Extended and coordinated school health programs leading to increased student wellness and improved devotion to learning.

(modified from the source: http://www.quasar.ualberta.ca/AISI/Measures/Measuring_success_in_AISI-Workshop_notes_files/v3_document.htm)

Comparison of the two situations identifies two variables to be changed. The first is to change students' lifestyle from an unhealthy state to a healthy state. The second variable to be changed is students' devotion to learning. Two goals are established through the comparison: to improve the lifestyles of the students and to improve the learning devotion of the students.

Example 2

Current Situation

- Many students have good performance in Mathematics tests but perform poorly on problems that are not of the standard type.

Desired Situation

- Students should be able to apply their mathematics knowledge in solving different types of problems: standard or not standard.

Comparison shows that the reason for students failing to solve non-standard problems is not because of a lack of mathematics knowledge. Students need to be taught how to tackle a problem. Something has to be done to improve the problem-solving skills of the students.

FROM GOALS TO INDICATORS AND MEASURES

But goals, in most cases, are too broad and general. Moreover, the variables identified for improvement in Examples 1 and 2 belong to a type of variable described by psychometricians as “latent variables”. Measurement of latent variables is difficult because they are not observable. Information on latent variables can only be inferred from a number of observations on behaviours to which they are related. For the sake of evaluation, the goal is usually expressed in a number of more specific statements, each dealing with one aspect of the goal and spelling out the expected behavioural changes that can be observed on this aspect. These statements are called indicators or objectives (to keep the terminology simple, indicators will be used in this report). They indicate the information an evaluator needs to gather and what analyses need to be done in order to provide evidence on the achievement of the goals. The degrees or the type of the changes indicate how much progress has been made towards achieving a certain aspect of the goal.

The behavioural change in an indicator is change associated with a certain observable variable. These observable variables are called measures. They can be quantitative as test scores on different subjects or qualitative as comments on students’ conduct or on students’ participation in class. Some examples of measures and indicators are given in Table 7:

Table 7. Goals, Indicators and Measures

Goal	Indicators	Measures	Nature
Improving the teachers’ qualification	Increasing the number of teachers trained in the use of Technology in teaching	Number of teachers trained	Quantitative
Improving the availability of computers to students	Increasing the computer: student computer ratio	Computer : student ratio	Quantitative
Improving the problem-solving ability of students	Higher scores on tests on problem-solving	Test scores on problem-solving	Quantitative
Improving students’ skills in using computers in assignment	More assignments using computers	Number of assignments using computers	Quantitative
	More ways in which computers are used in assignments	Different ways in which computers are used	Qualitative

(modified from the source: http://www.quasar.ualberta.ca/AISI/Measures/Measuring_success_in_AISI-Workshop_notes_files/v3_document.htm)

In Example 1, evidence for the improvement of the two variables is found in five indicators. Having a healthy lifestyle is an indicator of the intermediate goal. Evidence for the change can be obtained by comparing the numbers or percentages of students rated as having a healthy lifestyle by the instrument (a questionnaire), Quality of Life Inventory, before and after the implementation of the project. Improved attendance, reduced incidences of misbehaviour and improved attitudes towards the school are signs of improvement on devotion to learning. Evidence of these changes can be sought by comparing the data on these three measures collected before and after the project.

Improved academic achievement should be a consequence of a stronger devotion to learning and here improved academic achievement plays the role of an indirect indicator.

The academic achievement involves students' performance in different subjects and needs multiple measures in order to capture the complete information. But for the sake of acting as an indirect indicator for devotion to learning, an overall measure is sufficient. Measures could be the average scores of the students, or the number of students performing at or above grade level. Improved academic achievement could be indicated by a rise in the average scores of the students or an increase in percentage of students performing at or above the grade level.

The five indicators involved five measures from which information on the two latent variables are inferred. The indicators, measures and possible data sources for Example 1 are shown in Table 8.

Table 8. Indicators, Measures and Data Sources for Example 1

INDICATORS	MEASURES	SOURCES OF DATA
Improved Attendance	Attendance	Attendance records
Reduced Incidences of Misbehaviour	Number of reported incidences of misbehaviour	School Records
Improved Attitudes Towards School	Attitudes towards schools	Attitudinal survey
Healthier lifestyle	Lifestyles	Quality of Life Inventory
Improved academic achievement	Test scores, Comments Number of students at or above a grade level	Academic records Report cards

(modified from the source: http://www.quasar.ualberta.ca/AISI/Measures/Measuring_success_in_AISI-Workshop_notes_files/v3_document.htm)

SETTING TARGETS OR BENCHMARKS

To provide evidence for making progress towards the goals, it is necessary to show changes in the observable variables. Data should be gathered on these variables at a time before the implementation of the project. The data are called the baseline (data) and offer the basis for comparison. Having the baseline in hand, the desired situation in mind and a knowledge of the available project inputs, the project leader can set a target (or a benchmark) for the project. Table 9 contains an example used in the AISI Coordinator Workshop.

Table 9. Target and Baseline for the AISI Workshop Example

Measures	Baselines	Target/benchmark
Attendance (Attendance Records)	65% attend school regularly (based on the past 3 years average)	75% of the students will attend school regularly
Behavioural incidences (School Records)	100 reported incidences of misbehaviour per school year (3 year average)	50 to 60 reported incidences of misbehaviour per school year
Attitudes towards schools (Attitudinal Surveys)	55% of students have positive attitudes towards school	70% of students have positive attitudes towards school
Lifestyles (Quality of Life Inventory)	50% of students have a healthy lifestyle	65% of students will have a healthy lifestyle
Test scores (Report cards)	65% of students are performing at grade level.	90% of students will perform at or above grade level

(modified from the source: http://www.quasar.ualberta.ca/AISI/Measures/Measuring_success_in_AISI-Workshop_notes_files/v3_document.htm)

Table 10 illustrates how progress might be represented. On completion of the project, a table with two more columns could indicate whether the target has been reached. The 4th column in Table 10 shows the data on the measures collected after the completion of the report. The rating in the conclusion column is defined below:

- "1" no evidence of progress towards the target
- "2" evidence of progress towards the target
- "3" evidence of successful achievement of the target; and
- "4" evidence of having exceeded the target

Table 10. Checking the Achievement of Targets

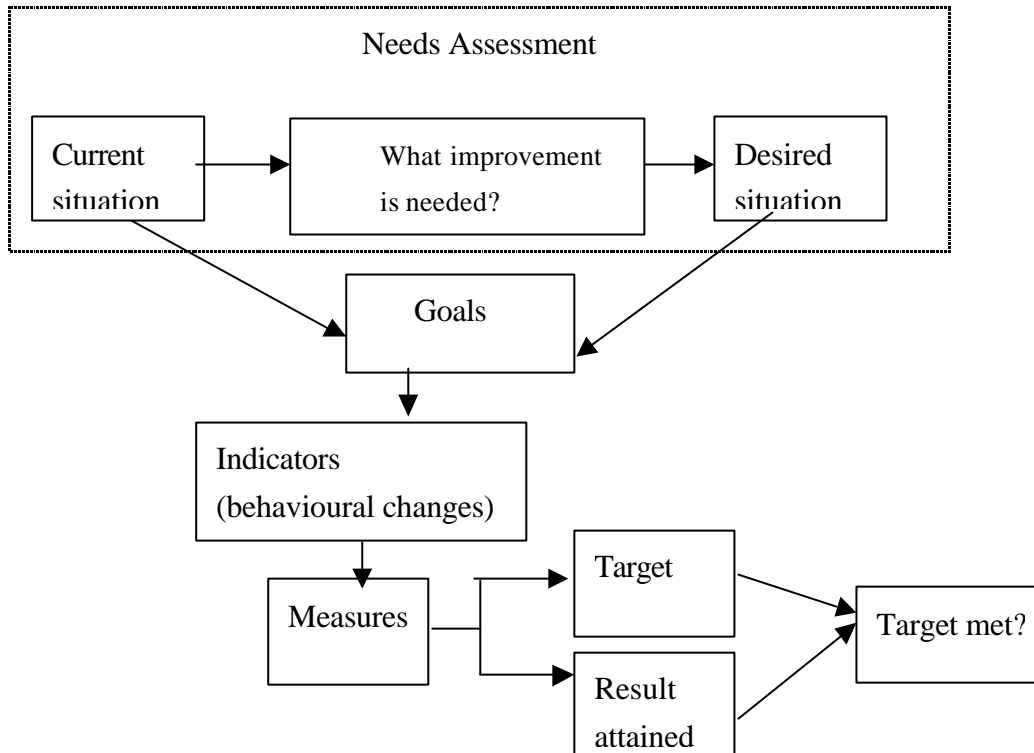
Measures	Baselines	Target	Data attained	Conclusion
Attendance	65%	75%	80%	4
Behavioural Incidences	100	50 to 60	55	3
Attitudes towards schools	55%	70%	55%	1
Lifestyles	50%	65%	70%	4
Test scores	65%	90%	75%	2

Targets are not reached for two of the indicators. There are also two indicators with improvement going beyond the set target. Manitoba School Improvement Program (MSIP) uses the median rating as an overall measure for meeting the targets. In this case, the 5 numbers are 1, 2, 3, 4, 4. The median is 3 and it shows that target is reached for at least three of the five objectives.

SUMMARY OF STEPS

The relationship amongst the different steps in the sequence is illustrated in Figure 2.

Figure 2. An Evaluation Process



In short, the steps are:

- (1) The goals for the project are identified by comparing the current situation and the desired situation (the goals should be aligned with the aims of the scheme of which the project is part). This part of the needs assessment is described in the evaluation guidelines.
- (2) The goals are broken down into a number of indicators. They are statements indicating the observable behavioural changes in the direction of the desired situation.
- (3) Identify measures by looking for sources of data which provide evidence for the changes. Evidence from different sources may have to be collected by different methods.
- (4) Collect current data (before the implementation of the project) on these measures to serve as the baseline. Set the benchmark (or the target) for each measure taking into account the desired situation and the available resources. Determine the time needed to reach the benchmark.
- (5) Gather data on the measures at regular intervals before the completion of the project to check the progress towards the target. See whether there is any action that needs to be done for targets with slow progress.
- (6) Collect data on the measures after completion of the project to see whether the benchmark is reached. Investigate reasons for not reaching the benchmark or going beyond the benchmark.
- (7) Derive indices, if possible, to show the overall success of the project in meeting its targets.