

# **INTRODUCTION TO PROJECT MANAGEMENT PRINCIPLES**

Office of Learning Technologies  
Human Resources Development Canada (HRDC)  
2003

## **Project Management**

With the excitement and sense of urgency and momentum of a new project, the natural tendency is to dive right in. Your enthusiasm and imagination will be essential to meeting project objectives, but they are not enough alone. Successful projects require effective management.

In the application process for OLT funding, you have already done much of the groundwork for sound project management and your hard work will pay dividends now. With a relatively small amount of additional planning before you begin your pilot project, you can help ensure a successful outcome.

The purpose of this learning module is to introduce you to the rudiments of project management. The module is divided into subsections which introduce some basic terminology of project management, describe the characteristics of successful projects and provide practical advice on creating a simple yet useable project management plan for your community learning pilot project. We hope you will find it useful.

## **What is a Project?**

According to the [Project Management Institute \(PMI\)](#), a project is any work that happens only once, has a clear beginning and end, and is intended to create a unique product or knowledge. It may involve only one person, or thousands. It may last several days, or many years. It may be undertaken by a single organization, or by an alliance of several stakeholders. A project may be as simple as organizing a one-day event or as complex as constructing a dam on a river.

## **What is Project Management?**

Project management is the application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholder needs and expectations of a project. The project manager, sometimes referred to as the project co-ordinator or leader, manages the details of the project on a day-to-day basis. This is an ongoing challenge that requires an understanding of the broader contextual environment of the project and the ability to balance conflicting demands between:

- Available resources and expectations;
- Differing stakeholder priorities;
- Identified needs and project scope;
- Quality and quantity.

Fortunately, a wide variety of project management tools and techniques have been developed for this purpose. The following pages outline a few techniques that - together with your creativity and hard work - will provide the foundation for a successful learning initiative.

## Characteristics of Successful Projects

In the funding application process, you clearly defined the objectives of your project, sought partnerships with organizations with similar objectives and developed a detailed action plan for your project. In doing so, you laid the foundations for success. Consider the following traits that characterise successful projects:

1. **Clear objectives** - The most successful projects have clearly defined objectives from the outset.
2. **A good project plan** - A carefully thought-out plan serves two purposes. First, it allows everyone involved to understand and perform their part in the project. It shows who is responsible for what and estimates how much money, people, equipment and time will be required to complete the project. Second, it serves as a monitoring tool, allowing you to take early action if things go wrong.
3. **Communication, communication, communication** - Your project is a collaborative effort between all of the individuals and organizations involved. You all need to work together to maintain effective and continual communication between the parties.
4. **A controlled scope** - Numerous issues will come up throughout your project, and not all of them will contribute to your overall objectives. It is important to stay focused on your priorities, with little wasted time or attention.
5. **Stakeholder support** - Projects typically involve several stakeholders, who invest time and resources in the project. It is important to maintain stakeholder support throughout the project, so the project team can meet its objectives.

How many of these characteristics does your project have? How can you improve it?

The tools and techniques provided throughout this module are all designed to help you meet these five characteristics.

## Planning Your Project

Every project has a life cycle, composed of the phases it goes through from beginning to completion. The broad phases of an Office of Learning Technologies funded project are:

1. Formulating the concept, goals and objectives of a project that uses technology to enhance learning and skills development;
2. Applying for OLT funding;
3. Conducting the initial phase (developing partnerships, conducting a needs assessment, community learning asset mapping);
4. Conducting the pilot project;
5. Writing a final report and disseminating your results to others.

The techniques in this module will help you with the fourth phase, conducting your community learning pilot project. In formulating your project and applying for funding, you have already done substantial project planning: identifying partners and project team members, assigning responsibility for tasks, developing an action plan, budgeting resources and preparing a marketing strategy and evaluation plan. These elements form the basis of a project plan.

A project plan sets the ground rules and states them in a clear fashion. This is especially important since OLT projects typically include multiple partners and stakeholders with differing interests and perspectives.



Many problems experienced on projects could have been avoided or lessened by developing a detailed project plan at the outset.

## Why Plan?

First, it is vital that everyone understands and agrees to the "ground rules" that will govern the project from here on in. You need to ensure that the objectives are clearly stated so that there is no disagreement later on.

Second, the project plan helps you to control and measure your progress. Now that your team members and financing are finalized, you should revisit your action plan and add the specific details that will allow you to manage successfully.

Third, the project plan will help you deal with any changes that may occur (and they inevitably do occur!). For example, what if a stakeholder wants to add a new objective to the project? A clear project plan will help you deal with this situation in keeping with the overall project objectives.

Finally, the project plan will help to cement stakeholder support over the coming months and years of the project. This is important because you will need the support of people from different organizations, and you will not have direct authority over them.



Allow sufficient time to get agreement on the plan - especially given different stakeholders. Remember that others have timetables that may not correspond to yours. Don't underestimate the amount of time this will take.

## What is in a Project Plan?

No two projects are the same; hence no two project plans are the same. To provide the maximum benefits, your project plan should be relevant, understandable and complete, and reflect the size and complexity of your unique project.

Your project plan should include the following elements:

1. A project charter
2. A calendar of activities
3. A time schedule
4. A responsibility matrix
5. A project plan budget
6. Major milestones with target dates
7. A risk management strategy

The project manager, sponsor, every partner, and all key project staff should have a copy of the project plan. It is a valuable tool that can help to avoid confusion about the project's scope and misunderstandings about responsibilities, timeframes or resource management.

**KEY POINT!** The amount of detail in your project plan will depend on your needs. It may be quite brief or very detailed. It is up to you to develop an appropriate project plan based on the nature of your project.

## 1 - The Project Charter

The Project Charter is a document that demonstrates management support for the project, authorizes the project manager to lead the project and allocate resources as required. It is very easy to create a project charter. It simply states the name and purpose of the project, the project manager's name and a statement of support by management. It is signed by senior management of the responsible organization and the partner organizations.

The project charter should be distributed widely - to anyone with an interest in the project. This will help build momentum, reinforce the project manager's authority, and possibly draw other interested and valuable team members into the project.



The charter can be e-mailed to broaden its distribution easily and quickly.



## 2 - The Calendar of Activities

A Calendar of Activities is one of the most important tools in a project manager's toolkit. By dividing a project into the individual tasks required to complete it, the Calendar of Activities:

- Provides a detailed view of the project's scope;
- Allows you to monitor what has been completed and what remains to be done;
- Allows you to track labour, time and costs for each task;
- Allows you assign responsibility for specific tasks to team members;
- Allows team members to understand how they fit into the "big picture".

Designing a Calendar of Activities requires some effort, and you may think that your project is too small to warrant the effort. However, with the action plan you developed when applying for funding, you already have the information you need to get started.

### Creating a Calendar of Activities

The action plan you developed when applying for OLT funding breaks down your project into its component activities. For the initial phase, you described them on a month-by-month basis, for the pilot phase on a quarterly basis. The activities in your action plan may be considered summary tasks. Some of these tasks are small enough to manage as is, but others will need to be broken down further into their logical parts.

These smaller units of work, tasks, will be assigned to individuals and should be specific enough to track and manage performance, but not so small that you spend too much time chasing details. As a guideline, it doesn't make sense to define tasks that take less than half a day to perform over the lifecycle of the project.

The following example illustrates the work breakdown structure of the summary task "Conduct learner evaluation of skills development content":

### Conduct learner evaluation of skills development content

- Create interview guide (1/2 day)
- Interview learners (2 ½ days)
- Collate responses (1/2 day)
- Write report (1 day)
- Discuss report at weekly meeting (1/2 day)
- Revise learning material content (4 days)
- Approve evaluation (1/2 day)

The bulleted items are the units of work that will be assigned to one or more individuals. Each task should begin with a verb that specifies the work to be done. Be sure to estimate the time required for each task, since tasks left open-ended are an invitation to procrastination.

The last task within each category should always be to approve the work of that phase, a good management practice. When all the work units are done, you will mark the Calendar of Activities to show the summary task as being complete. In the meantime, you will know exactly what steps remain to be done. Organize your Calendar of Activities on a quarterly basis. This will help you to prepare the quarterly progress reports you will be submitting to OLT.

**TIP!** When you've finished your Calendar of Activities, look at it objectively. Does it capture everything you need to do? Is it logical and easy to read? If not, rework it so that it becomes a meaningful tool. Getting the Calendar of Activities designed properly will save you hours of effort later on.

### 3 - The Time Schedule

In your action plan you laid out the activities of your project in their logical sequence. You have now expanded on the action plan to create a Calendar of Activities with a detailed work breakdown structure. Having identified the tasks to be completed and determined the sequence for doing them, you are ready to prepare the Time Schedule.

The Time Schedule identifies logical relationships between project activities, ensures personnel is available for tasks when needed and helps you to manage time effectively and complete your project when planned.

When setting the Time Schedule, review all the tasks and the sequence for doing them. Some tasks are “dependent” on others and can only be started when others are finished. Other tasks can be done concurrently, if you have sufficient human resources. External factors may also influence your Schedule. You may already have a list of eager learners and the learning materials ready for your project’s launch date, but repairs at the local community centre mean that the classroom facilities are unavailable until next month.

Project management software permits you to use Gantt charts for schedules. Gantt charts are popular because they graphically display the relationships between tasks. If you do not have project management software, spreadsheet software can also be used for schedules, as in this example showing one summary task:

| <b>Time Schedule</b>  |                       |               |               |               |              |  |
|---|-----------------------|---------------|---------------|---------------|--------------|--|
| <b>Task</b>   | <b>Hours per week</b> |               |               |               |              |  |
|   | <b>Week 1</b>         | <b>Week 2</b> | <b>Week 3</b> | <b>Week 4</b> | <b>Total</b> |  |
| <b>Conduct learner evaluation of skills development content</b> |                       |               |               |               |              |  |
| Create interview guide  | 4                     | -             | -             | -             | 4            |  |
| Interview learners  | -                     | 16            | 4             | -             | 20           |  |
| Collate responses   | -                     | -             | 4             | -             | 4            |  |
| Write report  | -                     | -             | 8             | -             | 8            |  |
| Discuss report at weekly meeting                                | -                     | -             | 4             | -             | 4            |  |
| Revise learning material content                                | -                     | -             | 8             | 24            | 32           |  |
| Approve evaluation  | -                     | -             | -             | 4             | 4            |  |
| Subtotal  | <b>4</b>              | <b>16</b>     | <b>28</b>     | <b>28</b>     | <b>76</b>    |  |

## Managing the Time Schedule

Despite your best efforts at scheduling, there is often a rush to meet project deadlines. There seem to be three major reasons for this:

- No project manager is assigned. Most project resources are focused on completing the project deliverables, with little attention paid to actually managing the project.
- A perception that project management is "administration" or overhead. In fact, as we try to emphasize throughout this toolkit, project management is an essential foundation for ensuring quality and timeliness.
- Lack of awareness of project management techniques.

The following hints may help to keep your project on schedule:

- When creating the Time Schedule, involve key personnel who are familiar with individual tasks, can estimate the time they will require and know the problems you may face.
- Discuss the responsibilities and priorities that partners have within their own organizations that may impact the time they can devote to your project.
- Allot time in the schedule for project management activities - 10% of total project time is a general rule of thumb.
- Hold regular project status meetings with the entire team to discourage procrastination and identify difficulties early.

The duration of a task depends on the number of people you assign to it and their productivity. For simple, labour-intensive tasks, you can shorten the duration by recruiting additional resources (perhaps from a local community group). For more complex tasks, such as advanced research, adding more resources may not help because only highly skilled people can be productive on these tasks. Adding more resources may simply increase your cost, with no improvement in quality or time requirement.

As the project progresses, there may be tasks that were not foreseeable in the original plan, or you may wish to undertake additional tasks to enhance the overall project outcome. If so, you will need to consider the impact on both the Time Schedule and resources. If your organization and your partners decide that changes to the Schedule are warranted and feasible, the project manager should get a written agreement for the revised plan from all the key stakeholders in the project.

## 4 - The Responsibility Matrix

Your project will be a collaborative effort by a number of individuals and organizations working together toward a common goal. Managing a diverse team, often spread over several locations, can present some special challenges.

A Responsibility Matrix is a valuable project management tool to help you meet these challenges. A Responsibility Matrix ensures that someone accepts responsibility for each major project activity and that nothing falls through the cracks. It need not be complex and is easily created by using your project Schedule.

To create a Responsibility Matrix, refer to your Time Schedule. The left hand column enumerates all the required tasks for your project. Across the top of the chart, list all the team members (e.g. project manager, evaluation consultant, office administrator, technical support etc.) for your project. Enter a code in each cell that represents that team member's involvement in the task in that row. For example:

| <b>Responsibility Matrix</b>                                    |                             |           |         |                        |                   |  |
|---|-----------------------------|-----------|---------|------------------------|-------------------|--|
| <b>Task</b>   | <b>Project Team Members</b> |           |         |                        |                   |  |
|   | Project manager             | Evaluator | Teacher | Instructional designer | Technical support |  |
| <b>Conduct learner evaluation of skills development content</b> |                             |           |         |                        |                   |  |
| Create interview guide  | S                           | A         | I       | -                      | -                 |  |
| Interview learners  | -                           | A         | -       | -                      | -                 |  |
| Collate responses   | -                           | A         | -       | -                      | -                 |  |
| Write report  | S                           | A         | -       | -                      | -                 |  |
| Discuss report at weekly meeting                                | P                           | P         | P       | P                      | P                 |  |
| Revise learning material content                                | S                           | I         | P       | A                      | I                 |  |
| Approve evaluation  | S                           | -         | -       | -                      | -                 |  |

**S – Sign-off; A – Accountable; P – Participant; I – Input**

Choose codes appropriate to your project; the key is to clearly identify who has a role in every activity, who is accountable and who must sign off. Make sure the matrix is included in the project plan so that every participant is clearly aware of their responsibilities.

## 5 - The Project Plan Budget

As part of the application process, you prepared a budget for your project that meets OLT guidelines. This “best estimate” of costs will be an important tool for managing resources while delivering a quality result.

It is important to have the most detailed and accurate estimates possible for major project costs (usually wages, materials and supplies and overhead) at the start of the project. With this information, the actual process of producing the Project Plan Budget is simple. Simply add up the labour and equipment costs of each task in the Time Schedule you produced. These costs should fit within the financial budget approved by OLT.

Keep the Project Plan Budget as simple as possible while maintaining accuracy. If you have experience in project accounting, enter the costs estimates from the budget for each of the tasks in your Schedule. This way, as actual expenses come in they will automatically be posted to the project, making the Financial Detail sheets and Cashflow Forecast forms required in your quarterly reports to OLT easier to fill out.

If you are not familiar with project costing, you can use spreadsheet software to monitor your budget. List all the Time Schedule tasks at the left of the spreadsheet, the resources to be used, cost estimates from your budget, actual costs and the difference, if any, in columns to the right:

| <b>Project Budget</b>  |   |                       |                     |                              |
|--|---|-----------------------|---------------------|------------------------------|
| <b>Task</b>  | <b>Resources to be Used</b>   | <b>Budgeted Costs</b> | <b>Actual Costs</b> | <b>Budget - Actual Costs</b> |
| Conduct learner evaluation of skills development content             |   |                       |                     |                              |
| Create interview guide   | Wages of project manager, teacher; Evaluator's fees.  | \$600                 |                     |                              |
| Interview learners   | Wages of teacher; rental of meeting room; laptop computer.  | \$375                 |                     |                              |
| Collate responses  | Evaluator's fees.   | \$200                 |                     |                              |
| Write report   | Evaluator's fees.   | \$400                 |                     |                              |
| Discuss report at weekly meeting                                     | Wages of project manager, teacher, technical support; Evaluator's, instructional designer's fees. | \$800                 |                     |                              |
| Revise learning material content                                     | Wages of teacher, technical support; Evaluator's, instructional designer's fees; 10 CD-ROMs.      | \$1200                |                     |                              |
| Approve evaluation   | Wages of project manager  | \$200                 |                     |                              |
| <b>Subtotal for learner evaluation of skills development content</b> |   | <b>\$3775</b>         |                     |                              |

## 6 - Major Milestones and Target Dates

Milestones are significant events in a project, usually the completion of a major deliverable. You defined project milestones and set target dates in your project action plan as part of the application for funding process. List these milestones and target dates in the Project Plan to ensure that everybody involved in the project is aware of them. While all those involved doubtless recognize that meeting them is important to achieving the objectives of your project, there are also additional, less obvious, benefits. Meeting milestones on schedule prevents wasting resources, maintains the momentum of the project and builds credibility among potential future partners.

Managing a project requires a constant balancing of resources and priorities. These constraints, coupled with unexpected effects of circumstances outside your control can make it difficult to meet milestones and target dates, but the Calendar of Activities, Time Schedule and Responsibility Matrix are powerful tools to ensure you do.

The following are a few hints to help with the process:

- Ensure the partners and key personnel have signed off on the project plan, explicitly committing themselves to milestones and target dates.
- Review the Time Schedule and Responsibility Matrix at weekly or bi-weekly project team meetings to address problems before they result in major slippage.
- Make sure each individual has the recognized authority and access to resources needed to complete tasks they are accountable for in the Responsibility Matrix.
- Allow sufficient time for training for all team members to perform effectively.
- Meet with team members individually to discuss the expected outcomes of the project and the tasks they are assigned, as well as to point out any difficulties they may face and answer any questions they may have.
- Recognise your project team's success when they meet milestones and target dates.

## **7 - What is Risk?**

Risk is inherent in all projects. In project management terms, “risk” refers to an uncertain event or condition that has a cause and, that if it occurs, has a positive or negative effect on a project’s objectives, and a consequence on project cost, schedule or quality. For example: the cause of a risk may be requiring a classroom with networked computers for the learners in your skills development project. The risk event is that Internet connection is delayed and the classroom is not available for the anticipated start date. This affects your objective, offering computer literacy training to underemployed adults, with the consequence that you must rent another facility or delay project activities.

Naturally, you would prefer to maximize the probability and consequences of positive events and minimize the probability and consequences of events adverse to your project objectives. A risk response plan can help you. It identifies the risks that might affect your project, determines their effect on the project and includes agreed-upon responses for each risk.

### **The Risk Management Strategy**

#### **Identifying Risks**

The first step in creating a risk response plan is to identify risks which might affect your project. The project manager, key staff and project partners should “brainstorm” referring to the project charter, calendar of activities schedule and budget to identify potential risks. Those involved in the project can often identify risks on the basis of experience. Published information resources are also available that identify risks for many application areas.

Common sources of risk in community learning initiatives include:

- Technical risks – such as unproven technology
- Project management risks – such as a poor allocation of time or resources
- Organizational risks – such as resource conflicts with other activities
- External risks – such as changing priorities in partner organizations

#### **Developing Risk Response Strategies**

You cannot prepare for or mitigate all possible risks, but risks with high probability and high impact are likely to merit immediate action. The effectiveness of your planning determines whether risk increases or decreases for your project’s objectives. Several risk response strategies are available:



- Avoidance – changing the project plan to eliminate the risk or protect the objectives from its impact. An example of avoidance is using a familiar technology instead of an innovative one.
- Transference – shifting the management and consequence of the risk to a third party. Risk transfer almost always involves payment of a premium to the party taking on the risk. An example of transference is using a fixed-price contract for a consultant's services.
- Mitigation – reducing the probability and/or consequences of an adverse risk event to an acceptable threshold. Taking early action is more effective than trying to repair the consequences after it has occurred. An example of mitigation is seeking additional project partners to increase the financial resources of the project.
- Acceptance – deciding not to change the project plan to deal with a risk. Passive acceptance requires no action. Active acceptance may include developing contingency plans for action should the risk occur. An example of active acceptance is creating a list of eligible instructors that can be called upon if last minute replacements are needed for your project.

Since not all risks will be evident at the outset of the project, periodic risk reviews should be scheduled at project team meetings. Risks that do occur should be documented, along with their responses. Your lessons learned may be useful to others or on future projects.

## **Conclusion**

The information in this module was intended to provide a brief introduction to practices and techniques in the field of project management. We hope that the information will be helpful to you in your project to encourage lifelong learning.

If you would like to learn more about project management, consult the *Project Management Institute* Web site at <http://www.pmi.org> .