A guide to project based learning.

ANTA National Staff Development Committee.


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A Guide to Project Based Learning
Acknowledgments

A Guide to Project Based Learning

A project of the Australian National Training Authority

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Foreword

The former National Staff Development Committee was a committee of the Australian National Training Authority (ANTA) and was charged with the responsibility of developing national policy and managing national projects in relation to staff development within the national vocational, education and training system (NVETS). Through strategic leadership in staff development, the NSDC aimed to promote the implementation of national training reform and skills formation.

In 1993, the NSDC initiated the CBT in Action staff development scheme. This scheme, focusing on competency based training, employed an action learning model to support groups of people working on significant training issues/problems in their respective workplaces. Two evaluation studies (Radcliffe, 1994; Australian Competency Research Centre, 1996) have concluded that a Work Based Learning (WBL) approach to staff development was highly effective and appealing to participants.

In response to these findings, ANTA has sought to extend the range of WBL options available, by developing the Work Based Learning in Progress series. This series is primarily targeted at workplace trainers/educators, although it is likely to also appeal to off-the-job teachers such as TAFE and SkillShare educators, private providers, group training companies, Adult Migrant Education Service.

In future there is likely to be a greater need for resource materials that support the notion of workplace learning, rather than traditional off-the-job training. This will result in greater emphasis on the workplace as a learning environment. It is in the real workplace that individual employees are provided with the opportunities to meet workplace competencies to the standards required. The key issue is how does the workplace trainer, manager, or human resource department provide effective learning opportunities customised to meet the needs of the workplace? One response is to introduce a Work Based Learning program where coaching, mentoring, action learning, project based learning, experiential learning, succession training, etc are all used to complement, or even replace, some of the more traditional off-the-job training approaches.

This series provides a range of easy to read booklets on a variety of topics, all related to learning in the workplace. The booklets have been prepared by a variety of authors who have had first hand experience with various aspects of Work Based Learning. They are not intended to provide an in-depth treatment on each topic. Each is intended to provide a basic introduction to the topic only. For readers who require more detail, an extensive reading list is provided at the rear of each booklet.

I hope you find them both enjoyable and useful.

John Kelleher
Series Editor
1. What is project based learning?

**Learning and work**

As recent research has shown, most people maintain that they've learned much of what they need to be successful in their jobs from the context of their work itself. However, though they may have some idea about what they've learned, they're far less certain about how they've learned it, or why particular work-related events prove to be good learning opportunities. When pressed, they talk about “learning from experience” or “learning by doing”.

This type of learning can often be random and ad-hoc. Often the people involved do not consciously set about to learn. Learning sometimes occurs as an accidental, if welcome, by-product of getting work done. Thus, learning fails to be perceived as an integral part of life at work, either by the people performing that work or by those around them (including their immediate supervisors).

Yet, with the pace of organisational change and technological innovation accelerating everywhere, the need to continue learning throughout one’s working life is stronger than ever before. The skills and knowledge that, only a few years ago, made an individual fully competent for a particular job may by today have become largely irrelevant.

To maintain their currency, people must be able to extend their aptitudes continually, not only to meet the present demands of their jobs, but also to prepare for what these jobs may require in several years. For individuals, this means that their future on-the-job effectiveness may well be contingent on their capacity for continuous learning.

However, many adults are unable to function “naturally” as self-directed learners, so they must be given explicit opportunities to learn how to learn all over again, especially within the context of the work they do.

That’s why **work based learning projects** can provide one of the best ways of making the most of the opportunities to learn available to individuals at, from and through the real-life challenges of their work. Carefully chosen, properly carried out, fully supported and monitored, such projects help ensure that learning to learn becomes an integral part of individuals’ day-to-day work experiences.

**Differentiating project-based learning from action learning**

Though both are highly effective vehicles for learning from real work, and both rely on proven principles of experiential learning (ie. learning which arises from the first-hand experience of the learner), there are important distinctions between action and project-based learning.

Action learning is primarily a group problem-solving process. Members of an action learning “set” use both their theoretical knowledge and their practical experience to find
their own solutions to real problems or issues within their own organisations, in situations where no obvious answers already exist.

In an action learning program, participants meet together in small groups to learn how to ask the “right” questions, that is, the questions best able to help them solve a real problem or tackle a real issue. Rather than bringing in an outside “expert” to solve their problem for them, the members of the action learning set are — over a period of time — actively encouraged to reflect on their problem-solving efforts as these take place; internalise the lessons they learn as they progress; and devise effective action plans for putting into effect the solution that the set evolves. That’s how their experiential learning takes place.

In contrast, project-based learning is primarily aimed at the individual, and is not as narrowly focused on problem-solving. Though there are times when two or more people can work together on the same project, this approach explicitly sets out to maximise the opportunities to learn available to individuals from tackling real challenges in their workplaces. It does so by turning into “official” projects both:

- The tasks that need to be performed to conquer these challenges; and
- The learning that can flow from repeatedly experiencing, reflecting on, concluding from, and planning for their project-related endeavours.

Thus, from the outset, project-based learning is as concerned with meeting the developmental requirements of individuals as it is with addressing organisational needs.

Approaches to project-based learning

Two distinct types of work based learning projects can be identified, according to the fundamental purpose they’re intended to achieve.

The first consists of projects which individuals are invited to take up either during or after completing training programs and courses. Their purpose: to enable transfer of learning to the on-the-job context to take place. For this type of project, the specific knowledge and skills to be acquired by the learners are predetermined by the designer of the particular program, and are formally presented in their generic form during the training event. Once back at work, the learners are then expected to apply what they’ve acquired to their real-life situations through suitably chosen projects.

The projects of this type that individuals complete commonly revolve around real world problems which also satisfy the requirements of their workplace sponsors (ie. the senior individuals or areas of the organisation responsible for nominating these learners on the particular courses). Through such projects, it is presumed that return on the investment in the individuals’ training (which is often not inconsiderable) will be maximised.

The second type consists of projects that individuals take up explicitly as vehicles for work based learning, for example, in order to meet specified workplace competency standards. Here, there is often no pre-existing body of knowledge or skills that learners are meant to acquire. However, with the introduction of workplace standards, levels of competency are now being better defined. Projects are intended to provide numerous, recurring
opportunities for learning. It’s up to the individuals carrying out the projects to avail themselves of these opportunities to the extent that they can and, as they do so again and again over a period of time, to become more proficient as self-directed, self-managed learners. The fact that they also complete their projects and, in doing so, furnish something worthwhile to the organisation that employs them (say, a workflow problem resolved, a process improved, a work group able to function more cohesively, etc.) is simply an added bonus.

Both types of projects are examined in this Guide, though the second is obviously far more effective as a tool for learning.

**Benefits of project-based learning**

Work based learning projects can be powerful vehicles for facilitating learning primarily because they succeed simultaneously at several levels. When properly carried out, they:

- **Focus on real work**
  The central focus of project-based learning is experiential, aiming to accomplish real results, work through real problems and resolve real difficulties.

- **Are fully consistent with principles of adult learning**
  Work based learning projects provide adults with the kinds of learning opportunities to which they tend to respond positively. The individuals carrying them out:
  - Can perceive the need to learn what they’re acquiring, in the context of the work they’re responsible for doing
  - Can immediately relate what they’re learning to the practicalities of their work and its day-to-day challenges
  - Can relate new learning to previous experience
  - Feel that they’re “in charge” of their learning
  - Have a clear sense of how they’re progressing with their learning, in terms of their ability to do their work more and more effectively.

- **Reflect a learning to learn orientation.**

As we’ve already seen, successful developmental activities must do more than simply ask participants to complete given skill-building tasks. They must also make individuals aware of how they learn. This does not refer to abstract theories about the learning process, but to greater understanding (through practical experimentation, self-observation and reflection) of “what works” for an individual in the context of a work situation that may have something to “teach” him/her.
Here is what Paul Ashburner, a participant in the 1995 pilot of the Australian Taxation Office ASO 4-6 Core Skills Program, had to say about his project-based learning:

**Introduction**

I have been working in the Appeals & Review section for the past 8 years. An area I found that may be positively affected by change is the area of working in teams, since in my section people hardly ever get the opportunity to work together. I have always believed that working in teams would not only increase output, but also the acquiring of knowledge. My proposal then was to use my project to test my theory that 'Output and knowledge would both increase from tackling the workload as a team'.

**Project outline**

The project that I initially proposed to my manager would have been too cumbersome and time consuming, so with my manager’s help I simplified it. I decided to use the daily bundle of returns to test my theory. That was because my manager had supplied me with current statistics on the average time taken to finalise cases in my section. I was thus able to measure the success of the project against a previous finding: the output from the three-person team (myself and the two members of my section involved in the project) would be greater than our combined individual output.

The plan was for the team to finalise within the day as many returns as possible from our bundle for that day. We would do this by jointly researching the issues raised in each of the returns drawn, and coming to the correct answer or course of action for each case attempted. I hoped that by working this way, the team would be able to achieve a higher output per person per day than the average for our section.

**Project outcomes**

During the two half-days that the pilot ran, the three of us finalised twice as many returns as the average previously achieved for our section. This was a good outcome, but not as successful as I had first hoped, for the following reasons:

- The team encountered issues that none of us had dealt with before.
- Time constraints placed on this project, along with inexperience in conducting these types of work-based projects, led to inefficient use of our time.

**Learning outcomes**

I feel that what I learned was:

- Not to expect that actual project outcomes will be the same as what was anticipated in the planning stage.
- Management of people in a team isn’t as easy as first thought.
- Preparation and discussion with other members of the team are vital to the free flowing of the project.
- Not all projects are practical, and some refinement may be needed depending on the needs of the sections in which they're carried out.
- Better relations, communication and familiarity with technical aspects of the job can be achieved through teamwork.
2. How does project based learning work?

Adult learning and learning cycles

Much has been written in recent years about the need for adult learning at work to be continuous over an individual’s entire career. It’s now clear that what makes a development activity successful in enhancing performance by affecting work-related behaviour is whether it provides learners with recurring opportunities to go around a **learning cycle**.

Among leading researchers, David Kolb, Charles Handy, and Peter Honey & Alan Mumford have produced variants on the basic adult **wheel of learning** that include some version of the following stages:

- the learner involves himself/herself in new experiences
- the learner observes and reflects on the new experiences from different perspectives
- the learner adapts and integrates his/her observations and experiences into logically defensible conclusions, theories, models, conceptual frameworks
- the learner tries out the new ideas and theories to see if they work in practice.

The central premise here is that successful development of work-related abilities depends on individuals improving their capacity to learn by deliberately going around the cycle and consciously focusing on each stage in turn (which in turn ensures that further learning takes place). For each individual, therefore, development of competence is an iterative process.

**Individual Learning Cycle**

- **Trying/Planning/Experimenting**
- **Doing/Acting/Experiencing**
- **Concluding/Theorising/Conceptualising**
- **Observing/Reflecting/Reviewing**
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Integrating task with learning

To be truly effective, work-based learning projects should provide a balance between two essential elements:

- **Task** (what’s to be done)
- **Learning** (what can be learnt from performing the task)

Most people are usually much better at taking on and doing tasks, than they are at thinking about their experiences and attempting to learn from them. That’s because a task is seen as “concrete”, something tangible to be accomplished. Learning, on the other hand, seems to many people “fuzzier”, less solid, less evident, and therefore less real.

Successful work based learning projects, if they are to be perceived as worthwhile development tools by the people who carry them out, must therefore incorporate significant task components. That is, they must enable these individuals to undertake real (and meaningful) work.

At the same time, however, if these projects are to deliver on their promise to enhance work-related competence, the learning opportunities that they afford must be made at least as important as their task components. Individuals must set out consciously both to achieve something and to take responsibility for their learning.

By integrating learning with real work, work based learning projects eliminate the widespread misconception that, in order to do “learning”, an individual must stop doing actual work (for instance, by going on a course) and, by implication, must stop learning when doing work!
One of the case studies in *Breathing Life Into Training - A model of integrated training*, published in September 1994 by the National Automotive Industry Training Board, concerns the authors' experience in developing and piloting an integrated learning model for the Foundry Elective Unit of the Vehicle Industry Certificate (VIC) at Holden's Engine Company. As part of their involvement in the program, participants took on individual work-based projects, also referred to as “practical study” or “research assignments”.

Here is what the publication has to say about this aspect of the pilot:

Each research assignment was discussed initially with individual employees by... Jane Sims [Project Curriculum Officer], taking into account learner needs and aspirations. It was then negotiated with the Foundry Superintendent [Nick Papadam] prior to the topic being formalised. The Superintendent provided invaluable advice, ideas and support, and the essential authority for each employee to proceed. He later commented:

"...They've given me every project, everything. In fact they even went to the point of making me sign every project that the guys took on. I got to read and sign [them all] so that if there were any warts or if anyone was a bit negative... they could come back to me".

Jane Sims commented on this aspect of the pilot:

"Each project was designed for individual participants and negotiated with them, with their supervisors and with Nick Papadam [the Foundry Superintendent] prior to starting... Nick provided them with a fairly formal 'gatepass' into whatever they needed to do. He discussed the projects with them... signed them off, and said, 'If there is any problem at all, please come and see me' [The participants] were thrilled... [it] gave them a wonderful lift, they just took off."

...Some essential elements of the Practical Study [include]:

- ...the assignment contract to be signed by the Foundry Superintendent. This records the agreed study topic and gives the learner permission to visit particular plants, collect information, carry out tests, etc. It observes protocol in advising supervisors in advance, and helps the learner to understand the need for protocol. It also informs and involves supervisors and relevant personnel in the learning process and provides an official network of helpers to facilitate learning.
- ...the purpose of the study and assistance available.
- ...a log of activities which records the work of a participant.

The overriding supervision, at Plant level, for each practical study was the work of Nick Papadam, who made himself available to help employees and spent many hours advising and reading drafts...

Nick admitted that at first he had been concerned at the level at which the curriculum was pitched. He feared it might prove to be beyond the capabilities of many of the participants. He was very pleasantly surprised:

"I would have tried to come in maybe just a little bit lower with some of the things... so they could cope with it a bit better. But to my surprise, well not really to my surprise, to my amazement, these guys have tackled some fairly hard topics and done it with flying colours. They've done it very well!"

John Marks [the Foundry Production Manager] made similar observations. He noted that some people had investigated topics which had also been in the “problem” trays of some of the company’s engineers. He was impressed with the quality of the participants’ projects and their outcomes:

"They've done remarkably well. Without exception all of the people have commented on how much they have learned... Their dedication and what they've put into their projects has been very impressive."
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Integrating the individual with the organisational context

In addition to focusing on individuals learning from their real-life work, project-based learning is also a very good means of bridging the gap between the individual and the organisational learning contexts.

Effective work based learning projects can provide unique opportunities for two-way learning: Carrying out a project allows an individual to learn from the organisational context in which he/she operates, while the organisation itself learns and changes as a result of the individual’s project-related actions.

It must be emphasised that the idea of artificially creating a project as a simulation exercise or business game is at variance with the concept of project-based learning being described in this Guide. So is the type of project which merely calls for someone’s passive involvement, that is, asks for a problem to be studied and recommendations to be made (with these recommendations then being left for others to carry out).

To achieve full experiential value, work-based learning projects must make the individuals who carry them out responsible not only for their learning, but also for taking effective action on any recommendations they may formulate in the course of addressing the problems and issues at the core of their projects.
In 1996, the Northern Cluster of the NSW Department of Community Services (DOCS) initiated a management development program for all managers, assistant managers and child protection specialists in its Community Service Centres. Using an approach to development that stressed the carrying out of individual work based learning projects, the initiative sought to improve service delivery outcomes, specifically by developing or enhancing participants’ ability to ensure full compliance with newly formulated disability service standards and to incorporate new strategic directions in child protection into the everyday activities of local service providers.

Kim Hussey, acting assistant manager and a community worker on the disability team at the Ballina Community Service Centre had this to say:

“For my project, I elected to work with one of our funded services, to learn more about how we might skill up some of their staff, specifically so that they may work more effectively with clients who have intellectual disabilities. I felt this was an important project, not only because it would explicitly link a government department with a funded service, but also because it would explicitly link improvements in service delivery to client outcomes.

“If the concept of project-based learning is taken on by an organisation, it needs to be viewed from the perspective that work equals learning and vice versa. It should then follow that adequate time is allocated or negotiated for project-related activities through participants’ supervisors or the performance planning process.

“However, when working for a human service organisation such as DOCS which is quite often crisis driven, work based projects like mine often fall by the wayside. Maybe we need to be looking at work based learning from the perspective of, ‘How will it help me to meet my clients’ needs?’ thus enabling us (and I include myself in this) to see it as justified, valid and worthwhile!

“I find work based learning an exciting concept, but often find myself ‘pulling back’ from working on my project because I have more urgent tasks to attend to.

“I also think it helpful that other people in the organisation are informed about the work based learning projects that individual participants are carrying out, so that it doesn’t feel so ‘different’ or ‘isolated’, and maybe they can then lend their support to the initiative and increase the profile and validity of work based learning.”
3. Implementing successful project-based learning programs

Several key issues must be addressed if a project-based learning program is to be carried out successfully.

Establishing clear purposes and objectives

While a project-based approach to learning is sufficiently flexible to be adaptable to almost any situation, a particular program is far more likely to succeed if its overall intents are clear from the outset, its purposes and objectives are well defined, and its anticipated outcomes are unambiguously stated.

Since project-based learning can be a beneficial “agent of change” (both individual and organisational) within an enterprise, linking a particular initiative explicitly to major changes it may be undergoing will often be indicated — whether these changes are aimed at its mission, structure, strategies, culture or work practices.

Planning the program comprehensively up-front, as well as conducting extensive internal consultations about its intended purposes (and communicating these as widely as possible within the organisation) will not only maximise its chances of success, but will also help generate acceptance, even commitment, among its major stakeholders.

Several key questions should be addressed at this stage, including:

- Is there an overarching, “macro” level organisational imperative to which the learning program should be explicitly linked? For example, is the organisation in the midst of implementing sizable reforms, to which all learning projects to be carried out by individuals should be linked directly? What are the advantages and disadvantages of forging such a link? Which outweighs the other? Why?

- What individual skills, competencies and areas of proficiency are to be improved through participation in the program? To what standards? Why? How will prospective participants’ initial deficiencies in these areas be determined? How will demonstrated deficiency lead to enrolment in the program? Who will make the decisions about who “qualifies” for participation? Individuals themselves? Their immediate supervisors? The HR/staff development area? How? Why? How will improvements be assessed? By whom? According to which set of performance/competency standards?

- Is participation in the program expected to enable individuals to perform their current jobs more competently? To be better equipped to perform future jobs? How? Why?

- Should participants’ work based learning projects be linked to formal training courses (“Type 1” projects as defined earlier in this Guide), or should these projects be viewed as primary vehicles for learning (“Type 2” projects)? Which would be more beneficial to the organisation? To the prospective participants? Why?

- What sort of balance should be aimed for, in terms of the “task” and “learning” aspects of participants’ projects? Why? How will that balance be established? Maintained over the several months that projects may take to be completed? What
measures might be put in place, to ensure that projects that veer too far out of balance can be retrieved in time?

Selection of participants

Typically, project-based learning programs get under way in given enterprises through some kind of pilot implementation. Thus, how the initial, “trailblazing” group of, say, 15 to 25 participants is selected (or, better yet, encouraged to volunteer) can have a particularly significant effect on the eventual success of the undertaking, and must therefore be given careful thought.

In many instances, it’s important to ensure that members of the trailblazing group reflect the various constituencies, “cliques” or attitudes present within the organisation. However successful this effort is, it’s likely that some of the participants will be found ready to take to the program “like ducks to water”. Others will be “fence sitters”, approaching the initiative cautiously and waiting to see how it might evolve before making any real commitment to it. Others still may start off being overtly (or, worse, covertly) resistant to the program, openly (or surreptitiously) opposing any tinkering with the status quo.

For all, what is needed is an attitudinal transition period, a period of adjustment, of trial-and-error experimentation, of gradual evolution towards and acceptance of the new. This period is equally necessary for everyone:

- Those who start off by resisting the new must be given the opportunity to confront (and if possible overcome) why they fear change.
- Those who are reluctant to make up their minds one way or the other must be given the chance to become convinced that they stand to benefit from involvement in the program.
- Those who enthusiastically (and perhaps unquestioningly) embrace what is being proposed must be given occasion to come to grips with all the implications (negative as well as positive) of what they’re so eager to plunge into.

That’s why launching the program by involving a representative sample of would-be participants is important to its overall success. Ensuring that a cross-section of attitudes and perspectives is represented in the trailblazing group will mean that, as each participant learns, changes and develops over time, he/she will act as a “yardstick” or “magnet” for others of similar outlook. If project-based learning is perceived as beneficial to one member of a particular sub-culture, then it’s likely to be more readily accepted by others within that group.

Access to learning facilitators

Irrespective of how they’re selected it’s likely that participants, in their efforts to become competent self-directed work based learners, will require access to specially designated (and trained) learning facilitators during the transition period described above.
A companion Guide in the *Work Based Learning in Progress* series, also written by Guy Gattegno, deals specifically with the issue of facilitating work based learning. The reader is referred to that Guide for further details about this critical issue.

**Training of participants**

Whether or not learning facilitators are made available to participants in particular instances, it's generally necessary, as an initiative gets under way, to conduct a specially designed initial workshop. Its main purpose: to acquaint all participants with the *principles* and *processes* of project-based learning:

Thus, the workshop is likely to aim to:

- Provide participants with an understanding of the overall structure, purposes and components of the program.
- Provide participants with the necessary initial level of knowledge about key learning-to-learn concepts and theories, specifically in the context of project-based learning.
- Enable participants to get started with the program, in particular focusing on how to design, initiate and carry out effective learning projects.

Topics to be covered are likely to include:

- The project-based learning program: its structure, scope, purposes, methodology and anticipated outcomes
- Learning-to-learn concepts and principles applicable to the development of given skills and competencies in the context of actual work situations
- Learning projects: what they are, how they can be carried out, why they can be very powerful vehicles for learning
- Structure for working with the dynamic nature of project-based learning over the life of typical projects (generally 2 to 5 months)
- Tools for measuring progress with, and reflecting on, both the task and the learning aspects of individual projects

The initial workshop must, at the very least, provide understandings as well as tools and techniques needed by participants to succeed as project-based learners.

**Drafting of Learning Agreements**

The most critical requirement of a project-based approach to learning is to ensure that all participants draw up Learning Agreements (or Contracts) to cover every project they undertake, even though these will vary in size, duration, degree of difficulty and value (in terms of credit towards a qualification) depending upon the nature of both the task and the learning to be accomplished.

Of course any Agreement, once created, may be reviewed and revised periodically, as either individual or organisational needs and priorities change over time. This, however,
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does not alter the fact that creating a Learning Agreement at the inception of every project is absolutely essential to the success of the initiative.

That's because Learning Agreements enable several issues, conceptual as well as procedural, to be addressed at the appropriate time. These include:

- Ensuring that all learning projects to be undertaken by individuals explicitly reflect or incorporate the broad corporate goals and strategic priorities of the organisation.

- Reconciling these “top-down” organisational requirements with the “bottom-up” developmental needs of individual participants.

- Ensuring that all individual learning needs that are to be addressed through projects are explicitly linked to relevant competency and/or performance management frameworks or standards. This will aid in the process of recognising current competencies.

In most instances, it's likely that opportunities for project-based learning will be triggered by problems or issues existing in the workplace environment. Possibly with the help of immediate supervisors and/or learning facilitators, individuals should be encouraged to identify those most suitable to be turned into topics for work-based learning projects.

For example, an individual responsible for the outputs of several staff members who seem to lack the willingness to meet their targets, may elect to undertake a project entitled:

_How to motivate my staff to achieve their results._

As a first step towards carrying out such a project, this individual should draw up a Learning Agreement. At a minimum, the Agreement should specify:

- The topic and rationale for the project (why the individual is selecting it as a vehicle for learning).

- The project’s major aims (what the individual hopes to achieve by carrying it out).

- Anticipated tasks (what the individual hopes to do as the project unfolds).

- Anticipated learning outcomes (what the individual hopes to learn from it).

- Approach/methodology to be used (how the individual hopes to go about carrying it out).

- Time-line and major milestones (how the individual sees the project unfolding).

- Potential risks (how the individual, and the organisation around him/her, might be affected by the outcomes of the project).

- Projected assessment/evaluation criteria and measures (how both the individual and other program stakeholders will ascertain project success).

The Learning Agreement should also specify the resources the individual will reasonably require to carry out the project. This may include time to work on project-related tasks; use of resources (library materials, distance learning modules, PC equipment and software, etc.); access to learning facilitator, subject matter expert or other individual for assistance in carrying out project-related activities; etc.
In addition, the Learning Agreement should specify, in quantifiable terms, the project-related assessment measures to be used and standards to be adhered to, in order to ascertain how successfully it has been carried out. This is particularly important if the project is to count towards the awarding of a tertiary qualification or recognition against a workplace standard.

Lastly, the Learning Agreement should make reference to the possible risks that implementing the project might expose both the person who will be carrying it out and the work environment around him/her. Some of these risks can be termed "operational", others "political". For example:

- What if the individual "fails" in his/her efforts to carry out the project? What happens to his/her reputation within the organisation, or to his/her future career? What if the outcomes of the project are judged by others to be inadequate or deficient?

- What if the resources needed to complete the project successfully are unavailable, or run out before it has been concluded satisfactorily, or are suddenly withdrawn by "powers that be" within the organisation because of conflicting priorities?

- What if the project is in fact successful, but in the final analysis succeeds only in awakening the forces of resistance that had been lying dormant within the organisation?

If possible, the Learning Agreement should briefly outline how the individual proposes to deal with or manage the most likely or potentially serious risks.

A typical Learning Agreement is shown on the next two pages.
# Project-Based Learning Program

## Learning Agreement

1. **Title of My Work-Based Learning Project:**

   

2. **Significance of This Project to:**
   - My employer/workplace
   - Myself

3. **Outcomes of My Project:**
   - Affecting/Involving my employer/workplace
   - My skills/abilities/competencies

4. **The Resources I'll Need to Carry Out the Project Successfully:**
   - *(eg. time, access to manuals or library materials, access to key individuals, etc.)*

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5. **How I Expect the Project to Unfold** (*Key milestones within the time-line*):

<table>
<thead>
<tr>
<th>Milestone</th>
<th>To be completed by</th>
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</tr>
</tbody>
</table>

6. **Evaluation of Outcomes:**

(Assessment/Recognition processes, relationship of my project to appropriate competency standards)

   

7. **Assessment of Possible Risks:**

(How carrying out my project might adversely affect me and/or my work environment)

   

8. **Support I'll Need from My Immediate Supervisor:**

(What kind(s), when/how often, for what purpose, etc.)

   

9. **Other Project-Related Issues:**

   

Signed: Learner .................................................................

Immediate Supervisor .........................................................

Date: .................................................................
Negotiating and finalising Learning Agreements

Once a draft Learning Agreement has been produced, it should be discussed between the individual and his/her immediate supervisor. Its specifics should be reviewed, negotiated and agreed by the two people involved.

In most instances, the project-related discussions and negotiations between individuals and their supervisors need to revolve around issues such as:

- The individual’s high priority learning needs, the organisation’s current business/strategic goals and priorities, and how the two can be fitted together to produce the best possible topic for a learning project.
- The existing conditions within the individual’s work unit attributable to a particular “problem” or “challenge”, and how taking up this problem/challenge as the topic for the learning project can be expected to correct existing deficiencies (both organisational and individual) and/or build on existing strengths (again, both organisational and individual).
- What resources the individual thinks will be required for his/her project, and what resources the supervisor feels might reasonably be provided.
- What role(s) the individual expects the supervisor to play while the project is being carried out (giving feedback, guidance or encouragement, creating a learning environment; providing access to resources; knocking down organisational barriers; observing improvements in the individual’s performance and/or the effectiveness of the work unit; trumpeting the success of the project throughout the organisation; etc.), and what role(s) the supervisor is willing/able to play.
- How improvements in the individual’s performance as well as the functioning, outputs or “health” of the work unit attributable to the project might be detected and measured.

In regard to this last point, at the time Learning Agreements are being negotiated, provision must be made for appropriate project-related data to be collected by supervisors. Typically, these data will deal with the nature and extent of two-way learning expected to take place: what/how/why the individual is learning from the organisational context in which the work based project is being carried out, and what/how/why the work unit is learning and transforming itself as a result of the individual’s project-related actions.

Once the specifics of a project have been agreed by both the individual and his/her immediate supervisor, the Learning Agreement can be drawn up in final form, and signed by both parties before work on the project is begun. In general, it’s important that both parties formally sign the Agreement, not only to give it (and therefore the entire project-based learning process) “official” standing, but also to reflect precisely what both have committed themselves to. This way, there’ll be no “surprises” later.

Note that a new Learning Agreement needs to be drawn up, negotiated and agreed, each time a learning project is to be carried out as part of an individual’s involvement in the program. Also, individuals may be working on more than one project at a time, and hence have more than one Learning Agreement in effect at any moment.
**Project management**

As a distinct management discipline, project management first evolved in the 1960s as part of the U.S. space program. Its practice expanded rapidly, as a result of the attention it received from management “gurus” such as Drucker and Metzger.

In recent years, a variety of project management approaches and models have been proposed (see, for example, the approach detailed by Rosenau). Generally, these provide guidance on how to organise the functions and structure the roles of various classes of stakeholders involved in a project, and sets of principles and practices for managing the project in an orderly way from its inception through to its successful completion.

While these are undoubtedly useful tools and techniques, they deal primarily with the task aspects of projects. The model proposed below, in keeping with the philosophy presented in this Guide, provides a balance between task and learning, by explicitly using the stages of the Honey-Mumford task Cycle and Learning Cycle as its basis.

![Task Cycle and Learning Cycle Diagram](image)

In addition, what is postulated here is that a work-based learning project, to be truly effective, should at a macro level cover at least two trips around these cycles. For example:

<table>
<thead>
<tr>
<th>Milestone</th>
<th>To be completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking action</td>
<td>Define the problem/opportunity 31 July</td>
</tr>
<tr>
<td>Reviewing</td>
<td>Study the current situation/Research possible solutions 21 Aug.</td>
</tr>
<tr>
<td>Concluding</td>
<td>Evolve optimal solution 10 Sept.</td>
</tr>
<tr>
<td>Planning</td>
<td>Determine how to implement this optimal solution 25 Sept.</td>
</tr>
<tr>
<td>Taking action</td>
<td>Conduct trial of this solution 30 Oct.</td>
</tr>
<tr>
<td>Reviewing</td>
<td>Analyse results of the trial 21 Nov.</td>
</tr>
<tr>
<td>Concluding</td>
<td>Formulate models and recommendations for improvement 30 Nov.</td>
</tr>
</tbody>
</table>

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A Guide to Project Based Learning

<table>
<thead>
<tr>
<th>Planning</th>
<th>Arrange for implementation of amended/improved solution</th>
<th>15 Dec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking action</td>
<td>Carry out full-scale implementation of amended solution</td>
<td>31 Jan.</td>
</tr>
<tr>
<td>Seeing results</td>
<td>Assess outcomes</td>
<td>15 Feb.</td>
</tr>
<tr>
<td>Concluding</td>
<td>Write project-related report</td>
<td>28 Feb.</td>
</tr>
</tbody>
</table>

Recognition through awards

Project-based learning articulates readily into established programs of formal study, especially those which are available to individuals via flexible delivery modes. In fact, the possibility of having the processes and outcomes of work based projects formally count towards the awarding of an academic qualification can often provide strong incentive for individuals to participate in initiatives that integrate work with study.

This process is currently being enhanced in this country as the new national training framework seeks to recognise work based learning against the Australian Qualifications Framework, thereby eliminating the need for individuals to enrol in formal courses in order to gain a recognised award.

In Australia as in other parts of the world, registered training providers are increasingly establishing partnerships with industries and enterprises to offer individually tailored and individually negotiated programs of learning. These explicitly enable the needs of the learner, the employer and the provider to be met concurrently. Work based projects that relate to learners' actual work roles and their organisation's goals (while also meeting relevant academic standards) commonly constitute a significant part of these programs.
In 1996, the NSW Environment Protection Authority piloted an Education Skills Development Program. Its overall aim was to enhance among EPA stakeholders the understandings, attitudes and skills needed to maintain and improve the environment and to promote ecologically sustainable development. A project-based approach to learning was chosen as the vehicle through participating EPA staff members could improve their ability to incorporate the use of education tools and services in their day-to-day activities.

Here is what Tim Robinson, one of the participants in the pilot, had to say about his experience:

"My project was to develop, implement and review a process for bringing about local community participation in the review of a key pollution control licence. The reason for choosing this topic was to enhance industry accountability to the local community.

"The major project-related tasks I expected to perform were:

Stage 1 Identify a suitable licence requiring review which had a history of community concern, had demanded resources through the reactive management of this concern, and involved significant environmental issues.

Stage 2 Brief stakeholders on proposed review process and outcome, and define and meet stakeholder information needs.

Stage 3 Develop stakeholder working group to conduct licence review.

Stage 4 Report on review to full stakeholder meeting and implement an on-going stakeholder participation process.

What I hoped to learn from my project was:

- What are and how best to manage the concerns of industry and the community in a conflict situation
- Facilitation and conflict resolution skills
- Persuasive public speaking, to enable me to convince stakeholders of the benefits of the proposed review process.

"My impressions from undertaking my work based learning project are as follows:

- In a work based learning project the development of new skills/knowledge occurs in a work context. This results in the learning process being a more robust one, as it must deal with the ever changing externalities which impact on workload and priorities.
- With a structured work based learning project there is a temptation to regard it as extra work - a sort of 'homework' syndrome. This has the potential to distract from its acceptance by staff, or impact on the motivation to continue.
- As a work based learning project is undertaken as part of one's workload, it encourages one to focus on the key issues and outcomes, since it must be managed and completed within the usual constraints of day-to-day work. It is a learning method which overcomes the tendency to over-reach on a project, which typically happens on a structured training course."

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4. Possible pitfalls and how to avoid them

To ensure the success of any project-based learning initiative, certain pitfalls are best avoided. The following table lists some of the more common pitfalls, their causes, and what can be done to minimise or eliminate them.

<table>
<thead>
<tr>
<th>Potential Pitfalls</th>
<th>Possible Causes</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of project-based learning not clear.</td>
<td>Program established too hastily. Goals/Purposes not adequately communicated.</td>
<td>Conduct workshop before program gets under way, involving key stakeholders, members of senior management team and/or would-be participants, to determine/clarify program aims, purposes and anticipated outcomes. Disseminate statement of program goals and purposes widely through organisation.</td>
</tr>
<tr>
<td></td>
<td>Goals/Purposes unclear to program sponsor(s)/coordinator(s).</td>
<td></td>
</tr>
<tr>
<td>Too few participants.</td>
<td>Benefits of project-based learning not widely understood. “New” approach to learning resented/opposed by those with a stake in existing training culture. Confusion widespread over role of projects in developing staff.</td>
<td>Advertise internally for participants, stressing the marketing material benefits of the initiative to individuals, their work units and/or the enterprise. Establish partnership with training provider if necessary, and advertise the fact internally, stressing how/why participants can gain credit for their project-based learning towards specified award, if appropriate.</td>
</tr>
<tr>
<td>Conflict between project-based program and more conventional training modes.</td>
<td>Principles of self-directed project-based learning unfamiliar to participants. How to integrate “bottom up” development needs of individuals with “top down” organisational requirements not clearly understood.</td>
<td>Communicate clearly that project-based learning is meant to supplement, not supplant, existing training programs. Disseminate explanation of distinction between “Type 1” and “Type 2” projects. Conduct pilots of: (1) program using “Type 1” projects following a course; and (2) program using work based projects as vehicle for learning. Compare results, circulate findings.</td>
</tr>
</tbody>
</table>

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### Potential Pitfalls

<table>
<thead>
<tr>
<th>Potential Pitfalls</th>
<th>Possible Causes</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long delays in getting Learning Agreements drafted, then finalised.</td>
<td>Topics identified for work based projects too extensive/ambitious. Participants &quot;too busy&quot; with other demands on their time. Lack of understanding of how to integrate learning with work, hence projects seen as additional burden placed on individual.</td>
<td>Get participants to select initial projects of very modest scope, as an opportunity to learn how to make learning an integral part of everyday work. Assign learning facilitators to help participants improve their abilities as self-managed learners.</td>
</tr>
<tr>
<td>Projects too vague and diffuse, hence difficult to initiate or carry out successfully.</td>
<td>Essential workplace competency standards insufficiently known by participants (and/or their supervisors or learning facilitators). Key business directions and strategic imperatives of enterprise insufficiently understood by above group(s) of stakeholders.</td>
<td>Disseminate relevant documentation to all key groups of stakeholders (eg. enterprise’s mission, business/strategic plans, organisation’s performance management system showing learning/development pathways, competency standards for participants’ roles, etc.). Conduct special workshop session with appropriate group(s) of stakeholders, to address area of deficiency.</td>
</tr>
<tr>
<td>Difficulty in getting Learning Agreements approved by participants’ supervisors and/or course provider coordinators.</td>
<td>Topics identified for work based projects too extensive/ambitious. Immediate supervisors uncertain of their roles, and/or function of project-based learning within their work units. Draft Learning Agreements not meeting academic standards of training provider.</td>
<td>Produce support materials for participants on how to complete Learning Agreements effectively. Conduct training for participants, focusing on techniques/requirements for completing Learning Agreements and negotiating these with their bosses and/or their studies coordinators.</td>
</tr>
<tr>
<td>Implementation of projects too task oriented.</td>
<td>Organisation’s culture biased towards technical aspects of jobs and accomplishing tasks. Learning and development considered of secondary importance. Participants allowed to revert to “what comes naturally” ie. only completing tasks.</td>
<td>Use committed senior managers as spokespersons for the virtues of self-directed learning in terms of “hard” business outcomes/ measures. Assign learning facilitators with strong background in how to focus participants’ project-related efforts on learning as well as tasks.</td>
</tr>
<tr>
<td>Participants’ level of commitment to program decreasing over time.</td>
<td>Unanticipated/Serious difficulties being encountered by participants while projects are being carried out.</td>
<td>Ensure learning facilitators are available to participants over course of project, to help resolve difficulties and maintain commitment to projects. Ensure participants’ “success stories” with individual projects are properly recognised/rewarded within the organisation.</td>
</tr>
<tr>
<td>Projects taking too long to be completed.</td>
<td>Too many competing demands for participants’ time. Learning facilitators insufficiently knowledgeable with their changing roles over the course of a program cycle.</td>
<td>Ensure senior management’s commitment to project-based learning periodically reaffirmed over course of program. Ensure competence/experience of learning facilitators throughout project cycle.</td>
</tr>
</tbody>
</table>
5. Summing it all up

The key points that have been made in this Guide about project-based learning include:

- Once it is accepted that people learn at work primarily from and through their actual work, it makes sense to optimise that learning via the deliberate use of work based projects.
- Two types of learning projects exist: “Type 1” projects explicitly follow training courses, their purpose being to enable participants to transfer the knowledge and skills they’ve acquired to their on-the-job situations. “Type 2” projects are intended to make full use of the opportunities to learn available at, from and through individuals’ real-life work, by providing them with recurring occasion to go around the Learning Cycle.
- Work based projects can be powerful vehicles for learning because they:
  - Enable participants to focus on real work.
  - Are consistent with principles of adult learning.
  - Focus on two-way learning (individual as well as organisational).

By explicitly integrating the Honey-Mumford Task and Learning Cycles, work based projects ensure that individuals who carry them out set about both to achieve something of value to their organisation and equally to learn something from doing so. The balance between task and learning is restored. Ultimately, once an individual becomes a true self-directed learner at work, one becomes altogether indistinguishable from the other.

Project-based learning is at its most effective when:

- The purposes and objectives of the initiative are clearly defined from the outset.
- Individuals are carefully selected and trained for participation in the initiative.
- Participants are given access to learning facilitators to help them make the transition to full-fledged self-directed learners.
- Participants are enabled to select topics for their projects that are realistic yet challenging, that reflect both their individual development needs and the strategic priorities of their organisation, and that place equal emphasis on learning and task.
- Participants draw up Learning Agreements in cooperation with their immediate supervisors (and, if their projects are to count towards a formal qualification, the approval of their academic studies coordinator), to cover all important aspects of their projects.
- Participants opt for an approach to project management that explicitly enables them to go around the Task/Learning Cycle at least twice.
- Participants are given a reasonable amount of time (typically 2-4 months) to carry out their projects, generally with the support and assistance of a learning facilitator.
- Participants can have their project-based learning formally recognised as contributing to the awarding of a relevant qualification, against the relevant standard.
6. Where to find out more

References


Further reading


Davies J. and Easterby-Smith M. 1984, ‘Learning and developing from managerial work experiences’ in *Journal of Management Studies*, Vol. 21 No. 4.


A guide to project based learning.