

TRYING SOMETHING DIFFERENT IN TRAINING: TIP

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Abstract

A university-based digital education developer was asked for help in creating some training by the Australian research branch of a multinational telecommunications innovator. The subject matter was an in-house methodology for use by engineers taking the role of project manager in research projects. The initial purpose was to encourage its uptake, but further exploration revealed wider needs. Some web-based material with a number of interesting aspects was created and delivered.

This paper focuses on design strategies, but also looks beyond. It outlines the situation at project commencement, traverses the issues in development and then provides brief comment on extending the typical notion of providing training as a one-off delivery. Of key interest is the manner in which the TIP software attempts to foster an on-going 'conversation'. This is achieved by leveraging the varied roles involved in the focus research project management process, and by harnessing a cooperative corporate research climate.

Keywords

Multiple perspectives, Roles, Research project management methodology, University-Industry collaboration, Corporate training, Design

The training context

TIP ('Training in the Process') provides an introduction to a methodology used by the client in managing progress in its many and varied research projects. Such projects are run by technical specialists who are uniformly highly qualified, skilled and motivated. These people usually 'wear a number of hats' in projects, they are very busy, mobile, and are frequently collaborating with colleagues in internationally disparate organisations in their technology-based initiatives. The nature of their research 'products' is not necessarily concrete or physical. Though they sometimes attempt proof of concept, they also develop algorithms and explore technologies for sharing electronic information. Much of their work is preliminary to commercial developments, and their time to 'produce' is somewhat variable according to circumstances dictated by resources, market and technical issues.

The research project management process introduced by TIP is intentionally adaptable to need. Prior to the TIP project, it had been 'captured' by the company in a detailed website. Developed over several years, it draws on best practice for the field of project management with adaptations for the research environment and for the specific needs and culture of the company. At its base is a wealth of local experience, bundled as guides to parts of the process, a basic flow of the process, and a range of forms and templates supporting effective capture and assessment of key project information.

The website containing the process, though comprehensive, was judged to be a little intimidating. Its creator, also the coordinator of the methodology's development, was no longer available and the next step was to promote its uptake. The research engineers who were expected now to adopt the research project management model needed help. Flexible, web-based training was requested.

Design issues and decisions on approach

It also transpired that the focus process had not yet been fully trialed as a suite. One project had followed its early stages before being cancelled. Another had employed the new mechanism in its later stages. One more was currently making successful use of 'the Process' in the middle stages. Though most elements were derived from organisational experience, development of training was revealed as part of a formative action, where some process parts were still to be completed.

Developing TIP required an understanding of the focus methodology. Close review of the existing detailed website was a first activity. A number of issues emerged, and there ensued some significant action clarifying both the training goals and certain details of the methodology. After this the organisation's training manager, who also doubled as a research engineer, agreed with developer suggestions to simplify the overall structure of the base methodology. Needed adjustments to the original website were completed as a first stage, and it then became possible to focus on the training need.

It was apparent that the practical knowledge of the method to be introduced lay in the experience of a number of key staff. A basic structure for the presentation of the introductory material was conceived, and the key people were identified and approached for interview. Time was a significant issue. Training material roll-out was required post haste, and access to the busy informants was sometimes difficult.

Consideration was given to a number of approaches which might inspire and involve the audience for the intended material. A clearly able and technically experienced group, they were well supported by a high speed network and up-to-date desktop computers, so there seemed no major impediments... aside from the fact that the methodology was still in a state of change.

The research project management methodology, after rearrangement, had five distinct groupings or 'phases'. An overview of the process, and of the goals, inputs, activities and outputs of each activity phase was needed, but how to liven it up for the target audience? It was judged they would not need (or particularly appreciate) a 'technicolour' production full of bells and whistles.

Two key items helped shape a provisional answer:

- an idea that the training could be anchored on a case study, and
- observation that the organisation's internal culture promoted on-going conversation and negotiation among the professionals involved in research projects.

Intentions were reconsidered, and one result was a determination that the training would be constructed in such a way as to promote its 'growth' after delivery. Parts of it were specifically to be extended in-house. Importantly, this would provide some key people within the research organisation with greater ownership. It also provided a mechanism to increase training value as people made further use of the methodology. Perhaps less importantly, it would also ensure the delivery of the core material within contracted period, whether all desired material could be sourced in the short external development period or not.

Having made these decisions, focus moved to making the material more 'approachable' via a little more work in terms of interface and its 'attitude'. This would benefit the creation of the TIP materials, but it would also demonstrate some techniques with potential to be used in a future reworking of the original process website. The second level of design objectives adopted included:

- Provide a simplified view of the process and advice on 'areas to watch' based on interviews with key informants. Provide prompting to users with further needs to explore fuller detail on the older website when needed. Facilitate switching between the TIP's overview and the detailed site. Also prompt tapping-into the network of practical experience found in colleagues within the organisation.
- Use simple techniques to stage revealing detail. Do so within user comfort and interest levels, both to improve the learning tool and to act as an object lesson.
Example 1: Employ a simple menu/topic structure.
Example 2: Use pop-up windows to contain optional information.

Example 3: Use roll-over techniques to 'de-clutter' and re-present some key diagrams from the in-house developed website.

- Be distinct from, yet complement, the corporate 'look and feel'. The training should feel like a different place, as is appropriate to its different purpose. Provide something of a 'lighter' atmosphere and, possibly, exhibit a bit of a sense of humour. (See Figure 1.)
- Collect comments and criticisms from reviewers and interview sources as input for a future review of the overall methodology and the website containing it. Also prompt for input to improve and extend TIP after its initial implementation.



Figure 1. Two examples of the visual style in TIP.

Key interaction and educational strategies

The above points established a firm design philosophy base for the development activity and its product. In parallel, a set of interaction mechanisms were identified and developed to make the material more directly useful for its educational purpose. These were to make TIP more intellectually satisfying, livelier and more intrinsically interesting for the 'trainee'. Key strategies included using elements of case study, provision of exemplars in a 'sample space', conscious perspective taking and intentional fostering of feelings of ownership and relationships within the target organisation. Lack of a research project which traversed the whole method precluded a full-blown case study, but it was clear that adaptation of the idea would help make TIP richer. A suitable candidate project, already underway, was identified for inclusion in the material. It had an amenable project leader, had employed the new methods through its stages to-date, and it seemed it had a good chance of running to completion.

A space was made in the evolving design and the project leader was briefed to gather relevant copies of documentation and to ensure that he (and his team) actively collected material to include with their reflections (good and bad) on their project's voyage through the research process.

In a similar vein, a rich set of resources was known to be building in documentation of all other projects currently using the process' formats and procedures. Another space was set aside to contain a selection of these materials, and cross-links were planned between the general discussion introducing each phase, and the case and sample space collections of related documentation and commentary. The officer responsible for overseeing the adoption of the method (the 'process manager') committed to taking the editor role. He would seek out examples to include in a building collection, and the invitation to make suggestions for inclusions was built into TIP. Examples of the various documents required or suggested could be included in this part of the resource, whether judged good, bad or indifferent. The key factor adding value beyond the simple examples provided, was to be in the supportive commentary providing explanation of what worked/succeeded, and why.

One consequence of the formative state of the process for the introductory TIP training material was some uncertainty about exactly what advice to give. As collecting and tailoring the mechanisms was still only recent, it seemed suitable to report what people *thought*. Further, TIP would mediate this information with indications of where the reactions came from. The research director, laboratory leaders, project managers, research engineers and, indeed, the process manager and team members could all have

somewhat different views and motivations in relation to a given project or phase of activity. Each could quite validly interpret the contribution of the methodology and its mechanisms in different ways.

Role-based perspectives were explored and reported upon in the TIP material at all levels. Differing ideas of 'what to watch' are expressed directly, as are different goals of roles. This idea is taken one step further in exploring each phase of the process with pop-up windows which briefly explore a specific question. These are prompted, populated and 'discussed' by a small group of characters who provide potted/caricature views to seed thinking, as well as to bring a little light relief. (See Figure 2.)



Figure 2. Example of a perspectives prompt and one of its 'pop-ups'.

Implementation, larger goals and reflections

The first goal of the TIP material is to introduce the research project management process, but it is also a means for fostering ownership, for prompting continuing improvements, and for fostering good relationships within the organisation more generally. This is done by prompting contributions, by recognising different views, and by promoting discussion of all interested parties. In this spirit, TIP also specifically suggests that those new to the process look critically at it and consult with other users. The idea of adopting a mentor is floated, and TIP provides cues on managing the mentor relationship.

The kinds of approach taken are not what was initially envisaged by the client, but given the stage of development that the underlying research project management process had reached at the time, it is difficult to see that a simple one-off training course was desirable or even possible.

Whether the choice of media is the most appropriate, or whether the choices made in approach are best is more open to question. Short term reactions of those involved in the development at client end to the initial 'training delivery', however, have been most gratifying. Comments from one in-house reviewer:

I much prefer the layout of these pages than our standard "look-and-feel" pages. They are much "friendlier" to the reader (of course, corporate standards may beg to differ :-). ... the pop-ups for additional information are particularly good, and get optional information out of the way unless it is really required by the reader. ... the roles played out by each of the team members was excellent clarification -- I wish that I had these earlier :-)

Originally conceived of as a flexible training event, TIP has evolved into more, including a mechanism to promote organisational (and methodology) development. Internal 'conversation' fostered in it, the planned 'growth areas' and the strategy of highlighting related role interests all look promising. The way has been good so far. It will be interesting to see what happens next!

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