

Introducing Patterns (or any new idea) into Organizations

**** A WORK-IN-PROGRESS ****

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Note: Since we have been working on this document for many years, there are quite a few patterns in this growing language-in-progress. However, many of the patterns have been shepherded and workshopped at previous PLoPs and other events -- this information is noted at the end of each of these patterns.

In order to prevent those who shepherd and workshop these patterns for PLoP'01 from becoming too overwhelmed, we ask that they read the complete document (in order to understand the domain), provide feedback on anything, but concentrate their efforts on the patterns that have not yet been exposed to review. These are designated with asterisks in the pattern list on the next page. *Thank you!*

The work in using and writing patterns began with Christopher Alexander who wrote *A Timeless Way of Building* [Alexander79] and *A Pattern Language* [Alexander+77] in the 1970s. When the software community began studying his ideas, interest in patterns began to spread throughout the software development industry in the 1990s. However, efforts to introduce patterns into organizations have had mixed success. The patterns presented here are the beginning of a pattern language whose focus is the introduction of patterns into an organization, with the long-term goal of developing a patterns culture. The contributors are from organizations all over the world. We have found a close connection between our experiences, which is reflected in the patterns we have written.

The creation of a pattern language should be the work of a community. Many people have contributed, and continue to contribute, to the development of this language. These include the pattern authors, those who have attended the *Introducing Patterns into an Organization* workshops, and the countless other individuals who are providing feedback and ideas for improving the patterns.

Especially valuable was the effort of all the shepherds who have worked with us along the way: Ken Auer, PLoP '97, David DeLano, PLoP'99, Jim Coplien, EuroPLoP'00, Brian Marick, PLoP'01. Special thanks also goes out to Alan O'Callaghan for his unwavering support and his invaluable help with many of our workshops.

As Christopher Alexander states, we hope that “many of the people who read, and use this language, will try to improve these patterns—will put their energy to work, in this task of finding more true, more profound

invariants—and we hope that gradually these more true patterns, which are slowly discovered, as times goes on, will enter a common language, which all of us can share.” [Alexander77:xv]

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The Patterns

The patterns in this collection are used when introducing patterns into an organization. The objective is to build a grass roots group of individuals who become interested in patterns and can help with the growing effort in spreading the word about patterns throughout the organization.

Although there are relationships between these patterns, thus forming the beginning of a language, an illustration of these relationships is not shown here since this is still a work-in-progress effort. Instead, the patterns are placed in high-level categories, as follows:

Roles

- *Connectors
- Corporate Angel
- Dedicated Champion
- Evangelist
- Innovators
- Grass Roots
- Local Leader
- Pattern Mentor
- *Respected Techie

Techniques

- *Adopt a Skeptic
- *Ask for Help
- *Beyond the Firehose
- Big Jolt
- Bread Upon the Waters
- Brown Bag
- Do Food
- e-Forum
- *Fear Less
- Gold Mine
- Hometown Story
- In Your Space
- Involve Everyone
- Just Do It
- *Keep It Going
- Personal Touch
- *Pieces of Clay
- Pilot Project
- *Plant the Seeds
- *Royal Audience
- *So What's New?
- *Stay Close
- *Treasure
- Trinket

Writing Patterns

A Pattern of Their Own

*Ghost Writer

Teaching and Learning about Patterns

Hero Story

*Just Enough

My Gold Nugget

Pattern Writing Guided Tour

Play-by-Play Workshop

*Study Groups

Workshop as Teacher

* newest patterns that have not been shepherded and/or through a writers' workshop

The Pattern Summaries

A Pattern of Their Own

Help individuals play a role in the patterns effort in your organization by mentoring them through the process of writing a pattern of their own.

Adopt a Skeptic

Pair those who have accepted patterns with those who have not.

Ask for Help

Ask for help whenever you need it. Ask everyone you know for help.

Beyond the Firehose

Take some time near the end of a patterns training class to plan what to do next with patterns in the organization.

Big Jolt

To give more visibility to the patterns effort, invite a well-known person to do a presentation.

Bread Upon the Waters

To gain credibility inside your organization, have your work published in an external source that is recognized by your colleagues.

Brown Bag

Use the time when people normally eat lunch to provide a relaxed atmosphere for learning about patterns.

Connectors

To help you spread the word about patterns, seek help from people in your organization who know and connect with many other people in the organization.

Corporate Angel

Acquire high-level managerial support. It is necessary for any activity to thrive and to provide access to resources.

Dedicated Champion

When patterns work is part of your job description, your effectiveness increases considerably.

Do Food

Find resources to have food at patterns events. It draws people in. Even cookies can increase attendance.

e-Forum

Set up a bulletin board, distribution list or listserver for those who want to hear more.

Evangelist

To introduce patterns into your organization, let your passion for the new approach drive you.

Fear Less

Identify resistance to your new idea and turn it to your advantage.

Gold Mine

Combine pattern authoring with another activity that is part of your workload.

Ghost Writer

Capture the knowledge of domain experts who don't write patterns by writing the pattern for them.

Grass Roots

When you're an Evangelist or Dedicated Champion, you can quickly wear out Innovators. You need broad support from rest of the organization.

Hero Story

Before starting to write a pattern, have students create a list of their areas of expertise. These become topic areas for patterns.

Hometown Story

Encourage individuals to present their patterns experiences.

In Your Space

Keep the patterns effort visible by placing reminders throughout your organization.

Innovators

Ask for Help from the small group of colleagues who are interested in patterns.

Involve Everyone

For any new idea to be successful in an organization, you must make sure the idea reaches everyone.

Just Do It

To prepare yourself for spreading the word about patterns, gather first-hand information on their benefits and limitations by integrating them into some of your current work.

Just Enough

To ease individuals into the more difficult concepts behind patterns, provide brief exposure to these concepts in the beginning with resources for them to learn more when they are ready to do so.

Keep It Going

Take a pro-active approach to the on-going work of sustaining the interest in patterns in your organization.

Local Leader

The prerequisite for an Evangelist to become a Dedicated Champion is to enlist the support of management. When your boss lets patterns activity become part of your job, you can truly be effective.

My Gold Nugget

Show students many different patterns in order to find ones that are most likely to address problems the students have struggled with. Try to find a "gold nugget" for each student.

Pattern Mentor

When a project wants to get started with patterns, have someone around who understands patterns.

Pattern Writing Guided Tour

Teach students the structure of a pattern by directing them in writing a pattern as a group.

Personal Touch

Contact individuals to discuss how patterns can be *personally* useful and valuable to them.

Pieces of Clay

To convince the organization of the value it can gain from patterns, tailor your message to the needs of the organization.

Pilot Project

Identify a small group of Innovators to use patterns in a real software project as a pilot project.

Plant the Seeds

Carry pattern materials (seeds) with you to plant the idea of patterns whenever the opportunity arises.

Play-by-Play Workshop

Do a writers' workshop demo with students participating and the instructor giving a running commentary.

Respected Techie

Enlist the support of senior-level technical people who are esteemed by members of the organization.

Royal Audience

Arrange for management and members of the organization who have helped with the patterns effort to spend time with a special Big Jolt visitor.

So What's New?

Welcome comments such as, "This is the way I do things already," as validations of a pattern, but show the value of the pattern to novices who don't have the same experience base as the expert.

Stay Close

Once you've enlisted managerial support, make sure they don't forget about you.

Study Groups

Form a small group of colleagues who are interested in a specific topic as a next step for newcomers to learn about patterns or a good way for those familiar with patterns to continue learning.

Treasure

Give those who support patterns something of value.

Trinket

When doing a presentation on patterns, give attendees a token that can be identified with the topic being introduced.

Workshop as Teacher

Have students do writers' workshops on their patterns.

The Known Uses

The known uses of the patterns are shown in *italics*. Company names are abbreviated as follows:

A - medium-sized telecommunications company in the southwestern United States

B - research and development division of a large international communications technology company

C - medium-sized IT consulting company with offices throughout the United States

D - large company focusing on product design and data management with offices across the United States

F - organization in Brazil

H - state department of health

I - small company that develops software tools, located in the southwestern United States and Europe

J - large international IT corporation

G - large international company with expertise in seismic acquisition and processing

L - large international communications technology company

M - large international company providing integrated communications solutions and embedded electronic solutions

N - medium-sized university in the southeastern United States

P - research arm of a large international company that focuses on document management

R - small company that provides services and solutions to business and government located in the eastern United States

S - large international engineering and electronics company

T - large international high technology product company

W - research division of a large telecommunications company in the southwestern United States

A Pattern of Their Own

Help individuals play a role in the patterns effort in your organization by mentoring them through the process of writing a pattern of their own.

You're an Evangelist or Dedicated Champion who wants to use a Personal Touch to get people interested in patterns. Some of these people have valuable experience to share.

How can you help individuals play a role in building the patterns effort?

Taking the time to appreciate the value in someone's effort is important in encouraging change to take place. Individuals who see their work as worthwhile and useful are likely to be more enthusiastic about continuing to do it and encourage others to do the same.

"Writing patterns is difficult work, and those who have struggled to capture the essence of their experience in a pattern are in a good position to help others who have chosen the same path." [Rising98:80]

Therefore:

Help experienced individuals to write a pattern of their own. Suggest that individuals write about something they know and love and have observed many times. Be enthusiastic and encouraging while the pattern is being drafted. Give immediate feedback. Help writers understand that theirs are just as important as GoF or any other patterns. At the same time, be realistic about the fact that it takes time and plenty of feedback to develop a good pattern. Be sure to introduce the writer to the shepherding and writers' workshop processes.

Show a few "good" patterns to use as models. Brainstorm to get an outline. Give time to read and then discuss "A Pattern Language for Pattern Writing" [Meszaros+98].

Use Pattern Writing Guided Tour, Hero Story, and Workshop as Teacher.

After the first pattern, authors may become excited about writing more patterns. They can also help in spreading the word and building the Grass Roots.

However, this pattern takes time to do well. Those who dislike writing, have poor writing skills, or have trouble thinking at the abstract level of patterns will need time-consuming attention paid to them. You can use Ghost Writer in these situations. But when a person is willing to work at it and is teamed with a mentor who enjoys teaching, the experience can be memorable and rewarding.

Coplien suggests that they read analogous sections in *The Timeless Way of Building* [Alexander79] and *The Oregon Experiment* [Alexander75] to learn more about pattern languages.

A has a pattern writing class in which individuals write patterns and workshop them. Often, after having successfully written a pattern in the class, students will go on to write more patterns, especially if a reward system is in place to encourage this. At AG Communication Systems, authors were given a copy of a patterns book (a Treasure).

L expanded a one-day introduction to patterns to two days to allow time for pattern writing and workshopping.

ChiliPLoP uses this technique in their “newbies” track.

An introductory-level patterns tutorial at the OOPSLA'99 conference was held over two days to allow time for attendees to write and review their own patterns.

Originator: Mary Lynn Manns

*Shepherded and workshopped at OOPSLA'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

***Adopt a Skeptic**

Pair those who have accepted patterns with those who have not.

You are a Dedicated Champion. Progress to introduce patterns has been slowed by people who are resistant to the idea of patterns.

It is not possible to convince everyone of a new idea at once. Some individuals are relatively quicker to adopt new ideas than others. [Rogers95] and [Moore99] are among those who support the widely known and tested “adopter categorization on the basis on innovativeness” scheme that categorizes individuals into one of five categories: innovators, early adopters, early majority, late majority, and laggards. The decision period of those in the latter categories is longer than that of the innovator and early adopter -- individuals who are in the late majority and laggards categories tend to be much more *skeptical* of new ideas and more traditional in their thinking. [Rogers95:265]

How can you help convince those who have not made a positive decision about patterns?

Those who have accepted a new idea can have an influence on those who are slow to accept. Rogers has shown that pressure from peers is often necessary for skeptics to accept a new idea. Most of the uncertainty about a new idea must be removed before skeptics will feel safe to join the majority – others can help with this. [Rogers95:265]

Therefore:

Ask someone who is convinced of the value in patterns to “adopt” someone who is much more skeptical. This person will provide information that will attempt to persuade the skeptic to take a positive view of patterns, using Personal Touch and So What’s New? At the same time, the “adopter” should listen to the skeptic’s view and make note of the reasons for their objections, using Fear Less.

Pair individuals who have similar values and interests. Rogers points out that talking with someone who is markedly different requires more effort. However, “when two individuals share common meanings, beliefs, and mutual understandings, communication between them is likely to be more effective. Individuals enjoy the comfort of interacting with others who are similar.” [Rogers95:287]

Individuals who have a reputation of being thoughtful, yet successful, in their use of new ideas have the greatest degree of opinion leadership in an organization and therefore can be more effective in “adopting” skeptics than someone who is known to be more venturesome with new ideas. [Rogers95:264]

While this pattern is closely related to Personal Touch, it is different in that it considers the unique challenges of convincing a skeptic. Skeptics tend to be suspicious of innovations and those who are promoting them. Therefore, the effort to provide information about how patterns can be personally useful to them [Personal Touch] is not likely to be effective by itself. Skeptics need more – they need most of their uncertainty to be removed, evidence that most others in their organization have already accepted patterns, and perhaps a little gentle pressure too. [Rogers95:265]

One Evangelist has used this pattern many times in political situations when a small majority needs to be convinced of a move forward that the majority is interested in taking, and a straight vote would have created dissension.

Thanks to the students in Mgmt 386 at N who inspired the title for this pattern during a class assignment on introducing innovation into organizations.

Originator: Mary Lynn Manns

***Ask for Help**

Ask for help whenever you need it. Ask everyone you know for help.

You're an Evangelist or Dedicated Champion working to introduce patterns into your organization.

When you're trying to get patterns going in an organization, you may initially think it's easier to do things yourself than to ask for help, but eventually you will find that the task is too big for one person. How can you get the help you need for your efforts?

One person alone can only do so much. You need help from others. Usually you try to do everything yourself but if you look around, there are always resources available to help you—with publicity, with presentations, with internal organizational structure, with special printing and graphics capabilities.

It may take time to get help but the return can be worth it. Unless you take the time to find out, you won't even know what resources are available, let alone how to take advantage of them.

Therefore:

Ask for help whenever you need it. Don't try to do it all alone. Ask as many people as you can for help. Sometimes it takes digging—you might have to talk to someone who knows someone, and so on, before you get the help you need.

Every organization provides some kind of support—web development, graphic design, special printing, free advertising, corporate publications, secretaries, and assistants. Help can be there for the asking. Take advantage of the resources that are available. Sometimes just wandering over to a support area and stopping at someone's desk can help you discover what's available. To understand how powerful this technique is see how it applies in the work of Jim and Michelle McCarthy [McCarthy01]. They show that when team members ask for help, the team becomes increasingly productive.

Connectors, Respected Techies, Innovators and Local Leader are good places to start your search. These people can then help you find other resources such as money to Do Food or to bring in a Big Jolt. They can also help to build the Grass Roots with Personal Touch and Adopt a Skeptic, and may even be interested in leading a Study Group or doing a Hometown Story. Ask for help with the work for In Your Space and e-Forum. If you are an Evangelist, ask for help in making a case to become a Dedicated Champion.

When in doubt, ask. When not in doubt, ask. If you are not in doubt, you may be kidding yourself. [Who said this?]

Don't be discouraged if the help is slow in coming. Even a small start can help you promote your ideas, leading to more resources in the future. Each time you ask for help, you'll bring in more interested individuals.

The Dedicated Champion at A used this extensively. Support for the patterns activity was provided by the training department, the external web developers, graphic artists, administrative assistants, and other managers in addition to the Local Leader and Corporate Angel.

The Evangelist at N used this to jumpstart her patterns effort. She found the person who led the center that could give her resources to advertise and hold patterns workshops and to Do Food at these events.

Originators: Jim and Michelle McCarthy

***Beyond the Firehose**

Take some time near the end of a patterns training class to plan what to do next with patterns in the organization.

You are teaching or attending a patterns training class in the organization.

What can be done to help patterns continue in the organization, long after the patterns training class?

Patterns training classes are useful for teaching various levels of patterns concepts in a short, intensive period of time. But this type of “fire hose” training can leave learners with uncertainty about what to do next, what to do with the things they learned, and how they and the organization can realize the benefits of patterns.

Therefore:

Take some time near the end of the training class to brainstorm about what the organization can do after the class is over. Include discussion on such topics as what can be done to help individuals learn more about patterns, what can be done to spread the word about patterns to others, and where patterns can be put to use in the organization. Should you start some Study Groups? Invite a Big Jolt? Begin an e-Forum? Make a list of ideas. Then prioritize them and decide what can be done now and what should wait until later. Add some time frames. Get the learners involved – ask for volunteers to lead each action item.

Email the list to everyone as a reminder. Use e-Forum and In Your Space to publicize the plans. Ask for Help.

You have a captive audience that just learned some new things about patterns. This is the best time to plan the next step, before they leave the room. It is an opportunity for the organization to begin moving beyond a few people who took a patterns class towards a plan for building a Grass Roots.

If you have experience in introducing patterns into organization, you may be tempted to tell the attendees what they should do next. It is best to avoid the temptation to do this because they know their needs better than you do. Therefore, allow them to brainstorm ideas and form a plan. Provide help by making subtle suggestions only when appropriate.

When the authors of this book give patterns training class, they use this pattern in the last 30 minutes or so of the training to lead the attendees in a brainstorming session of what they would like to do next with patterns in their organization.

Originator: Mary Lynn Manns

Big Jolt

To give more visibility to the patterns effort, invite a well-known person to do a presentation.

You're an Evangelist or Dedicated Champion working to introduce patterns into your organization.

What's a good way to attract a lot of attention to patterns?

Some people are too busy to attend Brown Bags but would find time to attend an event with a "big name" speaker. When the speakers have credibility, most people will believe them and become intrigued by what they have to say. Even individuals who have adopted patterns need to have their interest reinforced so it does not fade.

“Many community builders use celebrity events to create a “buzz” that raises the overall level of awareness about the community. On the other hand, dealing with celebrities often involves a lot of extra overhead and expense and the results may be short-lived. Celebrity events can divert resources and distract you from higher-priority tasks without necessarily contributing to your long-term community development.”
[Kim00:257]

Big names can be convincing! Rogers has found that communication from outside the individual's social system has a significant impact when the individual is being introduced to an innovation and in the process of gaining some understanding of it. [Rogers95:196] Those who are already making use of patterns need a “big jolt” too. It will serve to re-energize their interest and help to confirm their decision. As Rogers cautions, a decision to adopt an innovation is not the end. People still desire information to provide confirmation and may reverse their decision if not provided with that information. [Rogers95:80]

Therefore:

Invite a well-known person who has credibility in the patterns community to do a presentation. Be certain that this person is willing to speak at a level the organization can absorb. “Big name” people usually have a large amount of experience and may wish to talk about something that individuals in the organization are not prepared to understand. (See Just Enough.)

If funding is not available to pay speakers, entice them by pointing out that this is an opportunity to get publicity for their latest project or book.

Increase the probability of a significant audience with lots of publicity before the event, using In Your Space and e-Forum. If possible, Do Food.

If the speaker permits it, videotape the presentation and hold one or more video sessions for those who could not attend the real thing.

Arrange a Royal Audience. This can be a good opportunity to reward those who have helped with the patterns work in the organization and to make an impression on the Corporate Angel and Local Leader. But Stay Close with the managers after the Big Jolt's visit.

Most importantly, treat these events as just periodic bursts to stimulate interest of people new to patterns and to re-energize others. It must be held in the context of a bigger plan. Without a follow-up, the enthusiasm is likely to fizzle.

A big name speaker will raise awareness and credibility of patterns even among busy people. It will also serve to re-energize those who already subscribe to patterns. Even those who do not attend the presentation may be impressed by the publicity before the event and the talk about it afterwards.

However, this can initially create more excitement than can be handled. Enthusiastic individuals that aren't given some guidance can imagine that patterns are the latest silver bullet; these individuals will eventually be disappointed. As Rising notes, "The patterns community prides itself on the avoidance of hype."
[Rising98:3]

The interest in and inquiries about patterns increased significantly at W after Jim Coplien did a presentation there.

A Dedicated Champion at A says they "use this as much as we can. For some reason, people don't listen to the in-house experts as well as a visiting 'dignitary.'"

The Dedicated Champion at G invited a well-known speaker and saw a difference in those who heard him talk and those who did not—most of those who did were willing to hear more while most of those who did not were still skeptical about patterns.

Originator: Mary Lynn Manns

*Shepherded and workshopped at PLoP'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Bread Upon the Waters

To gain credibility inside your organization, have your work published in an external source that is recognized by your colleagues.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization. You're allowed to publish externally, after proprietary information has been removed.

You and your work lack credibility inside your organization.

"A prophet has no honor in his own country." Reputation is difficult to establish and easy to lose.

External publications have more credibility than internal technical reports. Internal technical reports are often WODs (write-only documents), sometimes distributed widely but only at a management level.

"Cast thy bread upon the waters, and after many days it will return to thee a hundredfold." [Ecclesiastes 11:1]

Therefore:

To draw attention to your ideas, send them outside. Market your ideas externally so that people inside your organization become aware of them:

- **Publish in journals read by your internal customers.**
- **Present your work at conferences attended by your internal customers.**
- **A last but time-consuming option is to write a book and get it published by an external publisher.**

Your internal customers will learn about your work through trusted channels. Development departments might invite you for in-house presentations, workshops, consulting, etc. If development departments transfer money to your group for these activities, you will have funding for the work.

Risks involved in external marketing include the following:

- Be sure the publications reflect the facts, as you know them.
- Topics must be relevant and useful or your colleagues might dismiss them as academic.
- Others across the organization might label your group as 'writing only and not working.'

You can address top-level management by carefully choosing the publication channel. This approach might be useful for finding a Local Leader or Corporate Angel.

A variant to external publication is the use of a Big Jolt visit to bring your ideas into your organization.

At S, technology transferred this way includes distributed object computing (CORBA etc.), patterns, object orientation, and Java.

The following authors used this pattern to write their book: Buschmann, F. R. Meunier, H. Rohnert, P. Sommerlad, and M. Stal, Pattern-Oriented Software Architecture: A System of Patterns, John Wiley & Sons, 1996.

A manager at T's Technology Center wrote a book on object-oriented design that was read by their developers.

This pattern has also been used at F. A paper was submitted to a local conference and was ranked first place among those submitted. The Corporate Angel learned about this honor and spread the word throughout the company. This really helped credibility in other parts of the company.

Several papers and a book were published about patterns at A. These not only were exciting for authors to see their work in print but each publication increased the credibility of the patterns movement in the organization.

Originator: Peter Sommerlad

*Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Brown Bag

Use the time when people normally eat lunch to provide a relaxed atmosphere for learning about patterns.

You're an Evangelist or Dedicated Champion who has called a meeting to introduce patterns. Members of the user community are free to attend or not.

How do you get people to attend meetings where new technologies are introduced, when they may not have a vested interest in patterns, and you may not have resources to Do Food?

There is always other, more important, work to be done. Even though most people have a natural curiosity about new ideas, it's hard to find the time to learn. This makes it difficult to find a time when people can attend meetings about patterns. But, since almost everyone wants to eat lunch, a meeting over lunch will often find more people with available time.

Therefore:

Hold the meeting in the middle of the day and invite the participants to bring their own lunch.

People are often willing to attend a meeting over lunch. This is not viewed as wasting time that could be spent doing "real" work, since the time would be spent eating anyway.

You may not be able to have a Brown Bag if the corporate culture doesn't accept food in meetings or having meetings over lunch.

Ask for Help, enlist the support of a Local Leader, or spend a little of your own money to Do Food.

This technique has been used to increase attendance to information sessions set up to introduce patterns and other new technologies to A.

*Some recommendations from an Evangelist at **R** for a Brown Bag conference:*

- *Create a program committee to organize the event.*
- *Give presentations in the middle of the day and invite attendees to bring their own lunch.*
- *Have a presentation every day at lunchtime for one to two weeks.*
- *Draw presenters primarily from inside the organization.*
- *Invite corporate executives to host the session introduce the speaker.*
- *Advertise the conference so that it is perceived as an event.*
- *Track who signs up and attends each session.*
- *Send reminders to participants who registered.*
- *Have door prizes and snacks at each session.*
- *Measure attendee satisfaction after each session.*

Charles Schwab uses brown bag training sessions to provide on-the-job training for Java developers.
<http://www.zdnet.com/eweek/stories/general/0,11011,2601709,00.html>

Originator: David E. DeLano

Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).

***Connectors**

To help you spread the word about patterns, seek help from people in your organization who know and connect with many other people in the organization.

You are an Evangelist or Dedicated Champion trying to introduce patterns into your organization.

How can you ease your task of talking with individuals in your organization about patterns?

You are doing Brown Bags and Big Jolt to give exposure to patterns, but you know that many people still need more of a Personal Touch. However, it is difficult, or even impossible in large organizations, for you to talk with everyone.

Rogers tells us that communication with others is the catalyst in an individual's decision to adopt a new idea. Other individuals provide them with the information they need to reduce their uncertainty about the new idea and eventually adopt it. [Rogers95:207]

In *The Tipping Point*, Gladwell tells us that “word-of-mouth epidemics” are the work of people he calls Connectors. These are people we can rely on to connect us with others. The success of this kind of epidemic is “heavily dependent on the involvement of people with a particular and rare set of social gifts [for] bringing the world together.” They have “some instinct” that helps them relate to the people they meet. While most people choose those they want to be associated with based on similar interests and proximity, Connectors don't see the world in the same way; rather, they see possibilities in everyone they meet. Therefore, they know many types of people in different social circles, creating the effect of bringing these many types of people together. Gladwell says that because of this, “... the closer an idea or a product comes to a Connector, the more power and opportunity it has.” [Gladwell00]

Therefore:

Ask for Help. Find the Connectors—those individuals who know and communicate with many other people in your organization. Use Personal Touch to convince them of the value of patterns. If they are Innovators, it should be easy to convince them. If not, it will be well worth your effort to take the extra time with them because once they become interested in helping you, their connection to others will decrease the time you will need to spend in spreading the word.

Once they are convinced of the value in patterns, request their help with convincing others. Since they have the special social ability to connect with others, encourage them to use Personal Touch and Adopt a Skeptic.

If a Connector is also a Respected Techie, they are in the position to help you with the important task of sharing the news of patterns with the technical staff and with management.

Since Connectors have their feet in many different circles, they may be able to help you find a Local Leader and/or Corporate Angel.

Although they are good at talking with people one-on-one, you may also want to ask them to do a Hometown Story when they acquire some experience with patterns.

It is not necessary that Connectors be close friends with all the people they know. Gladwell emphasizes the “strength of weak ties.” While friends (strong ties) occupy the same world, acquaintances (weak ties)

usually serve as an individual's tie to other social circles. Connectors have many of these weak ties and therefore can help you spread the word in a variety of circles. [Gladwell00] However, Rogers also stresses the value of linking people who are alike because people are often more comfortable talking with those who have similar interests and backgrounds. [Rogers95] Therefore, you should not discount any opportunity to "connect" people – whether they are close friends who can talk easily because of their similarities or acquaintances that can talk with people from different social circles.

Originator: Mary Lynn Manns

Corporate Angel

Acquire high-level managerial support. It is necessary for any activity to thrive and to provide access to resources.

You're an Evangelist or a Dedicated Champion trying to introduce patterns into your organization.

Big-ticket items—training, books, conferences, and visiting gurus—need the backing of higher levels than your own boss. How can you get this kind of support?

Brown Bags and enthusiasm can only go so far. Training, books, conferences, and visiting gurus will be needed if patterns are to grow. However, resources are limited, since each level of management has authority to spend only in a certain area, whereas very high-level support can make many inroads easier.

For patterns to be successful, very high-level managerial support must be involved, someone who believes in the importance of patterns and will lend appropriate coaching and direction. This high-level supporter must be respected across his organization; otherwise the support could possibly hurt your cause.

Even if everyone subscribes to patterns (unlikely in all but the smallest organizations), the support of high-level management is essential for tools, training, and other support activities.

An analysis of the best technology-transfer practices of a broad cross section of government agencies, research institutions, and national and industrial laboratories identified the importance of the role of *angels*, identifying them as “the high-level executives and patron saints of the organization who carefully project start-up projects and shield them from harm until they mature.” [Souder90]

Therefore:

Enlist the support of a high-level manager who has a special interest in patterns and will provide resources and direction to implement company strategies by supporting your idea.

To ensure that patterns have an impact across the organization, the efforts of the Dedicated Champion, the Corporate Angel and the Local Leader must be aligned. When the interests at all levels are in harmony, the paradigm shift to patterns can be made with minimal upheaval and disruption.

If a high-level manager is especially enthusiastic and knowledgeable, the whole process of introducing patterns is eased, since lower-level managers will be more open to directives from the top, especially if a Respected Techie is on your side.

The role of Corporate Angel is similar to Senge's Executive Leader, who is a protector, mentor, and thinking partner. [Senge96]

The Corporate Angel can make it possible to use Big Jolt, have training, and buy Treasures.

To help keep the Corporate Angel interested, Stay Close and offer the chance for a Royal Audience when an appropriate Big Jolt visitor is planned.

The role of Corporate Angel is not an authoritarian one. The upper-level management position should not be used to dictate behavior. Cultural change takes place slowly and should be built on Grass Roots effort.

“Hierarchical authority, as it has been used traditionally in Western management, tends to evoke compliance, not foster commitment. The more strongly hierarchical power is wielded, the more compliance results. Yet there is no substitute for commitment in bringing about deep change. No one can force another person to learn if the learning involves deep changes in beliefs and attitudes and fundamental new ways of thinking and acting.” [Senge96]

Unlike many theorists of leadership, we do not regard executives as the sine qua non of organization change. We do not believe "all change starts at the top" and that "little can happen if the CEO is not on board." We have seen too many counterexamples of significant change started and sustained for some time with little or no executive leadership, and conversely too many examples of aggressive executive leadership that results in little lasting change. But sooner or later executive leadership becomes crucial, especially in sustaining change that can have organization wide, impact. The real role of executive leadership is not in "driving people to change," but in creating organizational environments that inspire, support, and leverage the imagination and initiative that exists at all levels. [Senge99]

The pharaoh Akhnaton is a good example of a high-level authority figure who attempted a paradigm shift in Egyptian culture. In paintings from his era the royal family is shown with a new and strikingly different artistic freedom, more natural, lifelike settings—radically different from the stiff, two-dimensional representations of earlier years. At the end of his brief reign, the old paradigm returned. Even a pharaoh, considered to be god incarnate, could not overcome thousands of years of a culture existing inside a single paradigm. [Aldred91]

Coplien's Patron pattern [Coplien95] describes the role of a high-level manager who is a development project champion and decision-maker.

This pattern was applied successfully in the introduction of patterns at A. The Corporate Angel was the vice-president of product development. He has been a consistent supporter of all patterns activities. His influence has made it easier to bring in trainers and consultants, buy books, and attend conferences.

This pattern has also been used at F. The Corporate Angel has a special interest in patterns and has worked to develop one of the standards as well as setting organization-wide goals.

Originator: Linda Rising

*Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Dedicated Champion

When patterns work is part of your job description, your effectiveness increases considerably.

You're an Evangelist who has successfully enlisted a Local Leader or Corporate Angel.

How can you increase the time you can devote to your efforts in promoting patterns?

Without the pro-active effort of someone whose job description includes the new technology, the new idea can wither and die on the vine. A single, dedicated individual can bring a focus to the activities necessary to maintain a sufficient level of interest in patterns to keep the idea alive.

This role is described by Senge, "those people who 'walk ahead,' people who are genuinely committed to deep change in themselves and in their organizations. They lead through developing new skills, capabilities, and understandings." [Senge96]

Therefore:

Ask for Help from a Local Leader to expand your role of Evangelist to one of Dedicated Champion. Dedication means:(1) devotion to the cause and (2) time dedicated to the task of "championing" patterns—in other words, this is part of your job description.

You can start with a small percentage of your time dedicated to working on patterns and expand if there are compelling business reasons. Don't neglect any of your current Evangelist activities. Keeping your enthusiasm, using Personal Touch, monitoring the e-Forum, all these are still important. If you are new to this position, be sure to understand the role of the Evangelist. It is key to getting the new idea going.

The change accelerates when they accept and like you—the Grass Roots are quick to get their information from people they like and can relate to. [Rogers95:346]

Now that your job allows time for patterns activities, use Ghost Writer, Hometown Story, Pattern Mentor, Big Jolt, and Pilot Project.

To be truly effective, if you do not have one, you will need a Corporate Angel.

In a small organization, the Corporate Angel could be the Dedicated Champion and may be involved with project implementation.

The Dedicated Champion can play the role of Coplien's Gatekeeper (someone who funnels information in and sends information out). [Coplien95]

This pattern has been successfully applied at A. The Evangelist was able to convince her Local Leader that the patterns initiative was worth supporting. While patterns activity was never her full-time job, there was enough flexibility in her job description to accomplish a lot more than she had been able to do on her own time.

There was a great deal of effort in attempting to get patterns going at W. This would not have been possible without the Local Leader appropriating time for Dedicated Champion.

This pattern has also been used at F.

What allowed us to depart from our normal manner business? For us, the most important element ...was a successful champion who engenders interest in process change. A champion should be a respected developer who is part of the team, known for getting work done and respected for desiring practical improvements. ...I can't stress this enough: when management determines that process must be followed, the pressure comes from outside the group. It is foreign, and team members will likely reject it. If the enthusiasm, however, comes from respected members of the group, developers feel compelled to listen. After all, these people actually know what it's like in the trenches. Once the other team members see real benefits, they'll jump on the bandwagon as well, and the revolution will be well underway. [Roberts00]

Originator: Linda Rising

*Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Do Food

Find resources to have food at patterns events. It draws people in. Even cookies can increase attendance.

You're an Evangelist or Dedicated Champion who has called a meeting to introduce patterns. Members of the user community are free to attend or not.

How can you entice people to attend meetings introducing patterns?

There is always other, more important, work to be done. Most people have a natural curiosity about new ideas but they're too busy and are leery of becoming involved in a new idea that might take time and might not lead anywhere. However, everyone likes free food!

Having food can draw people in. According to Alexander's pattern, Communal Eating (147), food turns a meeting into an event, "the mere act of eating together...is by its very nature a sign of friendship...." [Alexander77:697]

Therefore:

Have food at the meeting—doughnuts and bagels with coffee, tea, and juice in the morning, cookies and soda in the afternoon. Lunch is good at noon.

People will attend almost any meeting if free food is available. Having the food to concentrate on when the meeting gets slow helps hold their attention (caffeine and sugar won't hurt!).

Be sure you have done your homework to understand the role of food in the culture. When doughnuts were provided at W in the health conscious city of Boulder, Colorado, no one ate them!

The graphic of chocolate chip cookies accompanied by an ice cold Pepsi has been left to the reader's imagination!

You may not be able to Do Food if the corporate culture doesn't accept food in meetings.

Apply this solution sparingly or expectations will become too high and when there is no food, people will be disappointed. The food should be seen as a special treat.

If a Local Leader is not in place to provide resources, someone else will have to pick up the tab. Even without Local Leader or Corporate Angel you can buy cookies. Both your colleagues and management will be impressed that you believe in the idea enough to put your money where your mouth is.

While the prospect of free food is nice, Brown Bag can be used when funding is not available.

This technique has been used to draw attendance to information sessions set up to introduce patterns at A.

It was also used at W. (After the experience with leftover donuts, bagels became the food of choice at patterns events.)

A research tradition at B is "Food Place". One department has its own kitchen. Another has the famous espresso room. A food place is a strong addition to this pattern.

Originator: David E. DeLano

Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

e-Forum

Set up a bulletin board, distribution list, or listserver for those who want to hear more.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization.

How can you initiate and maintain contact with people who might be interested in your idea?

It's hard to get information to everyone. We're overwhelmed by too many ideas and everyone is so busy. But most people will spend a little time each day reading e-mail.

People might not have time to attend every Brown Bag or other patterns event but they like to know what's going on. So they might read a few e-mail announcements before deciding to become more active in the community.

The author of *Community Building on the Web* has observed, "A mailing list is often the best way to get your online community started. If it takes off, you can always add more features and gathering places. You can create a prelaunch mailing list for your founding members, early adopters, enthusiasts, or devotees. You'll get to know some of your most potentially valuable members and let them meet each other, before your member database is set up." [Kim00:30]

Therefore:

Create a publicly accessible electronic, interactive forum. Advertise its existence. Keep it active and growing. Consider having separate "announce" and "discussion" lists, since some want to actively participate and others want to passively hear what's going on.

This virtual community will help you establish a real one. It will provide a way to identify expectations and goals for your organization and create a consistent definition of your new activity.

If you monitor the medium, you can use this information to convince management that there is sufficient interest to take the next step—management support and the identification of a Local Leader or Corporate Angel.

The Evangelist at A used a growing e-mail distribution to draw attention to patterns activities. The initial list came from Brown Bag attendees. Later, when training courses were offered, attendees were added to the list. The distribution list was used to advertise pattern news, especially Big Jolt visits. The list made the recipients feel special because they heard about an event before the general population.

The Dedicated Champion at W used a growing e-mail distribution list to send the latest news on patterns events and useful examples of patterns.

Originators: The EuroPLoP 2000 Focus Group on Introducing Patterns into Organizations: Gerhard Ackermann, Frances Evans, Peter Gassmann, Jan de Groot, Pavel Hruby, Klaus Marquardt, Amir Raveh, Linda Rising, Maks Romih, Didi Schuetz, Alberto Silva, Amy Strucko, and Oliver Vogel, with special thanks to Amir Raveh for the idea and capturing the initial version of the pattern.

Workshopped at EuroPLoP'00 (July2000).

Evangelist

To introduce patterns into your organization, let your passion for the new approach drive you.

You're part of a software development organization that wants to stay abreast of new technologies. You're excited about patterns. Maybe you went to a conference, read an article or book and, as a result, started learning more. You feel patterns will have value for your organization and you want to spread the word.

You want to get patterns going in your organization but you don't know how to start. How can you begin to introduce patterns to your organization?

It's hard to translate enthusiasm into action that has lasting impact. New ideas are always out there—more than we can handle. You only have so much time to get your ideas across.

To grow your idea into real change for your organization, you must be willing to invest yourself in your cause. When you look for possibilities in every situation, you can take advantage of even small opportunities to get your idea across. Don't worry if you don't have an all-encompassing vision. As Senge suggests for any creative project, "develop a simple plan of action and experiment with it. Let each stage of the work build on the previous stage." [Senge94:198]

Therefore:

Become an Evangelist for patterns. To start, Just Do It. Tell others. Share your vision. Let them feel your enthusiasm. Learn as you go and be prepared for setbacks. Give Brown Bags and set up an e-Forum. If you have a well-known contact who will come in to your organization at no cost, bring in a Big Jolt. Do Food at events when you can. Begin to identify Innovators and a Respected Techie. Ask for Help. Try Personal Touch. If you are an author, consider using Bread Upon the Waters.

In the face of resistance, use Fear Less and So What's New? Use Gold Mine if your job description allows it. Just Enough can help you interact with newcomers.

If you are successful in conveying your enthusiasm, a small group of those who also believe in the new idea will support you. These Innovators will help spread the word and ultimately create Grass Roots support for patterns. Real impact will require a Local Leader and a Corporate Angel. Be on the look out for possible managerial support.

The patterns movement at A began with an Evangelist who talked to everyone about patterns and gave Brown Bags. A small group of Innovators supported this early effort and helped identify others who might be interested. An e-Forum was established and ultimately a Local Leader helped identify a Corporate Angel.

Originator: Linda Rising

*Workshopped at the OOPSLA "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

***Fear Less**

Identify resistance to your new idea and turn it to your advantage.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization. Progress seems to be slowed or blocked by negative influences caused by people in fear of their position.

Some people are not picking up the new idea. Some are deliberately avoiding the topic; others introduce noise and gossip.

New buzzwords and hot topics are always accompanied by a lot of hype. People seem to expect promises of silver bullets.

It's difficult to inquire into others' views when you do not agree with them. Our habitual response to such disagreements is to advocate our views harder. Usually, this is done without malice but in the genuine belief that we have thought things through and have a valid position. Unfortunately, it often has the consequence of polarizing or terminating discussions, and leaves us without the sense of partnership we truly want. Try to respond to differences of viewpoint by asking the other person to say more about how he came to his view, or to expand further on his view. Creative outcomes are much more likely. [Senge90:200]

When introducing patterns, you'll have to address fear, both the listener's fear and your own. The listener may fear loss of position or status, or they may fear the loss of comfort, the knowledge that what was true in the past will remain true, that they can work as before. Or they may fear being taken in by hype. This fear will manifest itself as resistance to your ideas.

Your reaction to that resistance is likely to be to advocate your views harder. That too is motivated by fear, the fear of looking wrong when everyone's looking at you, the fear that your ideas may in fact be wrong.

The collision of two fearful people leads to impasse. Resistance is not the primary reason why changes fail. It's the reaction to resistance that creates the problems.

Yet, Moore recommends that skeptics not be ignored because they "can teach us a lot about what we are doing wrong." [Moore99:54]

Therefore:

Identify any resistance and turn it to your advantage. Detractors are good sources of information for the problems that may arise with any new idea. Listen to what they have to say. Understanding the reasons for the resistance allows you to use it to your advantage, rather than allowing others to use it against you.

In presentations, bring up the negative things you have heard or anticipate what your detractors might say. If you don't bring these issues up you are more vulnerable when someone else raises them. This approach of inviting resistance makes sure that all concerns are heard.

Give resistant individuals extra attention. Use Personal Touch. Show that learning a new approach with patterns does not mean throwing away their experience. Point out how patterns can improve things for them. People like being recognized and receiving special attention.

Emphasize that “patterns will not solve all your problems.” Point to references that point out the difficulties in using patterns, for example, “Patterns: The Top Ten Misconceptions,”

<http://www.research.ibm.com/designpatterns/pubs/top10misc.html>

Use So What’s New?

Progress in introducing the new idea is not as likely to be dragged down by resistant individuals. Listening to their concerns brings to light the limitations of patterns so that these limitations can be addressed frankly and honestly throughout the organization. Giving these individuals some special attention and validating their concerns may actually bring them around to your side. In addition, others who see you dealing respectfully with these resisters, and even raising objections in advance, are likely to be impressed with you as the messenger of the new idea.

There can be many reasons an individual is resistant to a new idea. Some resist because their frame of reference is most often the past – we’ve always done it this way. Rogers refers to these as “laggards” in the widely known and tested “adopter categorization on the basis on innovativeness” scheme. For more information on “laggards,” refer to [Rogers95:265] and [Moore99].

In one organization an Evangelist tried to introduce object oriented approaches. There were signs of resistance at the introduction. Later resistance decreased when the resisters were actively involved in the process.

This approach was also used at A. Any negative comments were followed up one-on-one to hear the detractor’s side and to address issues. These issues were always brought up in any subsequent presentations—to deal with problems before they were raised. In some cases, detractors became enthusiastic supporters. In other cases, detractors remained unconvinced but they were no longer as noisy about it.

Originator: Rob Westgeest

Gold Mine

Combine pattern authoring with another activity that is part of your workload.

You are an Evangelist hoping to become a Dedicated Champion, working in a specialized domain without an established patterns literature.

How can you show the organization that patterns already exist in current documentation?

You have not been officially authorized to do patterns work, so you have little time to spend on writing them. Most of the patterns that people in your organization have heard or read about are from a different discipline or are too high level to be useful to them.

You have access to various kinds of documentation in your organization. You have noticed recurring information throughout this documentation. You believe this is an opportunity to show the organization that patterns are not something that is beyond their grasp.

Therefore:

“Patternize” existing documentation. You may have been using patterns already and just haven't realized it. Many companies encourage employees to document best practices or lessons learned in a freeform manner. Scour this documentation for potential patterns and, with minimal time, extract meaningful patterns from it. If you are not familiar with the content, interview the author of the documentation to gain sufficient context to write the pattern. If possible, name the patterns using corporate buzzwords your colleagues will recognize.

If you are to give a presentation summarizing your findings, use the patterns as you are preparing your notes and presenting some of your results as patterns.

Rewriting existing documentation as patterns and thinking patterns as you create new presentations or documents will help you refine concepts, improve descriptions, and add extra structure to the information. You may find that patterns allow you to simplify difficult concepts that others have struggled to communicate. This will help to sell the patterns approach to your organization. It will ease the transition to patterns since your co-workers will already be familiar with some of the names and ideas even if they are new to the pattern format and terminology. When you use the patterns in everyday technical discussions, colleagues will naturally absorb the pattern form at the same time that they are absorbing the technical substance of the pattern you are discussing. This will enable a gentle learning curve that may overcome the roadblocks associated with introducing a brand new concept.

This also allows you to avoid making a big deal out of patterns. You will be able to talk about them naturally and in circumstances where the focus is on the content not the form and soon they will be accepted as useful. Concepts that have always been valued will now be seen as related to patterns. Since you are already using patterns, you will be in a better position to justify continued focus on growing the effort within your organization and the associated sponsorship that is required. As a result, you are able to create patterns without compromising your current position.

You will undoubtedly have to deal with those who continue to be skeptical and to obstruct your progress. Some individuals will still see patterns as just a fashionable name for common sense. Others will continue to perceive them as a level of obscurity that does not add value. You will not be able to get your whole

organization on board right away, but by leveraging the gold mine of patterns relevant to your industry, you should be well on your way to achieving critical mass.

You can continue this effort even after a Local Leader or Corporate Angel has agreed to fund the patterns effort.

*This pattern was used at **D** to generate an initial set of patterns. There were a number of valuable concepts with buzzword names that could be documented and catalogued as patterns. When the concepts were presented in a pattern format, co-workers were already familiar with the names and ideas and could see the value in using a patterns approach to structure the material.*

Originator: Frances Evans

Workshopped at the OOPSLA'00 "Introducing Patterns into Organizations" workshop (October 2000).

***Ghost Writer**

Capture the knowledge of domain experts who don't write patterns by writing the pattern for them.

You are an Evangelist or Dedicated Champion in an organization building a patterns repository.

What can be done when a domain expert is willing to contribute to the repository but is not interested in writing, or does not have the time to write patterns?

Patterns capture knowledge from domain experts. It takes a lot of work to write a good pattern, and most domain experts don't have the time. They may not understand patterns, but they are interested in conveying the information.

Coplien suggests that some people aren't cut out to be pattern writers. However, people who have great ideas but no inclination, time, or talent in writing, can be tapped in a pattern mining exercise and their patterns "ghost written" by someone else. [Coplien00a]

Therefore,

Ghost write the pattern for the expert. Capture the domain knowledge¹ and document that knowledge as a pattern. Ask the expert to review the draft. Iterate through this process until the pattern is mature enough to be workshopped. Keep the expert involved.

Acknowledge the expert as the "author," and acknowledge the pattern writer in an "as told to" line.

The domain expert must be willing to spend time talking with the Ghost Writer. If not, the process of writing and iterating through the pattern can take too long or die before the pattern is really finished. Usually you can count on the expert's time for a couple of iterations. Use this time wisely. The expert will lose interest quickly if you keep asking for more time.

The Ghost Writer must be familiar with the subject area and able to ask intelligent questions. This will keep the experts from getting annoyed at what may be perceived as stupid questions. [Hanmer01]

If you ask good questions, you will discover more patterns, since there will almost certainly be others that are related to the one you are currently writing.

Sometimes the mining interviews can be greatly enhanced by having two experts present. They can then play off each other and probably know the problem/solution space even better than either individual does. [Hanmer01]

Although this pattern allows knowledge of a domain expert who is *not* willing to write patterns to be captured by someone who *is*, it is not as good as having the expert write the pattern. Capture the story in the expert's own words. This will lend an air of authenticity to the solution and make the pattern more credible. The pattern should tell the expert's story.

Take the pattern(s) back into the organization. Most people don't understand patterns until they see a pattern they can viscerally relate to. [Harrison01]

¹ <references to pattern mining techniques will be inserted here>

This pattern is related to the Mercenary Analyst pattern, which describes a professional documenter that removes the burden of creating from developers. [Coplien95:213]

Many of the patterns in the repository at W were ghost written by the Dedicated Champion who talked with developers willing to share their stories, advice, and best practices.

This is how the patterns effort began at L and “was a big factor in the success of the patterns.”

Many of telecommunications patterns at L were mined from experts through a ghost writing process.

At A, the Dedicated Champions were both involved in writing patterns with the help of domain experts. These patterns included design patterns, system test patterns, and patterns for customer interaction.

Originator: Mary Lynn Manns

Grass Roots

When you're an Evangelist or Dedicated Champion, you can quickly wear out Innovators. You need broad support from rest of the organization.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization. You have a small group of Innovators who support the new idea.

To have real impact in an organization the interest in patterns must extend beyond a few Innovators.

The Innovators are helpful at the beginning but to make real impact, you need more support. You'll need more than just a few outliers to get something significant going. It's hard to get people to take time to listen to new ideas, since everyone is busy. On the other hand, most people like to feel they are keeping up with the latest buzzword.

People don't like to be told what to do. One of the worst ways to introduce a new idea is for it to be dictated by management. By stirring up interest bottom-up, the receivers of patterns will push to get them implemented much more quickly.

“As the work spreads beyond an initial core of early champions, it does so primarily through proving its practical merits. . . .continuous practical experimentation. . . .keeps us honest. It prevents us from being champions simply because we “believe in this work.” Secondly, it provides the means whereby ever-growing circles of people become engaged and learn. . . .Most people will become involved. . . .because of the practical benefits for their work.” [Senge90:xviii] As it develops, this group is "able to move around the organization. They understand the informal networks, what researchers call the informal 'communities of practice,' whereby information and stories flow and innovative practices naturally diffuse within organizations." [Senge96]

Therefore:

Grow the Innovators into a larger group of people who have experience in or are very interested in patterns and give them as much information and training as possible.

Use Do Food, Brown Bag, Personal Touch, Big Jolt, and Hometown Story.

In this way, patterns are introduced from the bottom up.

You “can start your own revolution one change at a time. Once the benefits become apparent, your colleagues will join you and together you can conquer your programming world.” [Roberts00]

Ask for Help. Look for management backing—a Local Leader and Corporate Angel. The Grass Roots can call attention to patterns and perhaps lead to high-level management interest.

Even though the patterns movement at A used the management support of a Local Leader and a Corporate Angel, the focus of the work targeted the development community with the long-term goal of a sustained Grass Roots movement

This pattern has been used at F.

Originator: David E. DeLano

*Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Hero Story

Before starting to write a pattern, have students create a list of their areas of expertise. These become topic areas for patterns.

Students are now writing their first pattern, under the direction of the instructor. Some have more difficulty getting started than others do.

It is common for pattern students to struggle with a topic for their first pattern.

Pity the poor students. They learn about patterns for the first time, and before long they are told to write a pattern. They should have participated in a group writing session to at least see the writing process in action, but that is virtually no experience upon which to build.

Even students with considerable experience in using patterns often have trouble writing their first one (or several) patterns. It can be very difficult to come up with a suitable topic for a pattern. This is particularly difficult in a classroom situation, where the student must "perform on command."

One of the challenges of writing patterns on one's own experience is that when we become expert in an area, we are "through the gate" [Alexander79]: we no longer use our patterns consciously, they have become part of us. So it is difficult to bring them to mind.

Another difficulty is that it is human nature to see others' accomplishments while being blind to our own expertise. In fact, some people don't think they know anything worth writing as a pattern, even though they are quite skilled and experienced.

Therefore:

Before writing patterns, do an exercise to get people to focus on their own areas of expertise and have them write these areas down. These areas become a fertile ground for pattern topics.

The direct approach of asking people for topics they might write patterns about, or even what their areas of expertise are, can freeze some people. So approach it obliquely, by asking people to write down the topics that other people come to them for advice on. Ask them what their favorite areas of work are. Ask them about their hobbies. Ask them what excites them about their hobbies, and perhaps ask them to tell you stories where they felt they were successful. (See War Stories, in "Patterns of Shepherding"[Harrison99].) Then point out that these are the things of which patterns are made. Emphasize that things they consider mundane may be startling revelations for people without their expertise.

In extreme cases, you can point out that this is simply an exercise to teach pattern writing, so the pattern topic need not be deep or profound.

It is often helpful to have the students write this information down right at the start of class, and post it for all to see. Then remind them as you teach them about patterns that the things they wrote down are a source of knowledge they can and should share with others.

One of the interesting consequences of this pattern is that you can ask students to hang their papers on the wall, so others can see them. This helps the students get to know each other, and begin to build trust. This is important as they move into workshopping each other's patterns (see Workshop as Teacher).

Originator: Neil B. Harrison

Shepherded and workshopped at KoalaPLoP'01.

Hometown Story

Encourage individuals to present their patterns experiences.

You're a Dedicated Champion trying to Involve Everyone.

How can you publicize the experiences of those who have used patterns to those who have not?

People want to know what successful people are doing. For those who attend, hearing the experiences of respected peers is the next best thing to personally having the experience. "Most individuals will not adopt an innovation without trying it first...to determine its usefulness." [Rogers95:171] Rogers has shown that, "the trial of a new idea by a peer like themselves can substitute, at least in part, for [an individual's] own trial". [Rogers95:171]

You see the same people doing Powerpoint presentations. Most others are willing to talk about their experiences, but don't want to take the time to prepare and deliver a formal presentation. Informal, interactive presentations require little preparation and can be just as, or even more effective. Individuals are more likely to talk about experiences when they can do it in an informal way with little or no preparation. Offering informal opportunities can also help those who are hesitant about speaking in front of a group.

Therefore:

Find individuals who will talk about their patterns experiences. Encourage them by assuring them that their presentation does not need to be prepared and delivered in a formal way. Do the "leg work" necessary to prepare the event and promote it as an informal and highly interactive session. Use In Your Space and e-Forum.

It is best if these individuals are known to and respected by others in the organization. However, they do not need to be pattern experts.

You do not need a large audience. Small group settings are usually better than large groups for creating an informal, interactive atmosphere. Attendance can be encouraged with Do Food and Brown Bag.

Individuals who are willing to share their patterns experiences with others in the organization will have the opportunity to do so with very little effort on their part. Those who attend the session(s) will see that patterns can be useful to others in the organization and therefore have the potential to be of use to them too.

This pattern was used at W. Meetings were well attended and filled with discussion.

This pattern was used at A. Patterns success stories were often reported at team meetings. One presenter even went on to give his presentation at OOPSLA.

Originator: Mary Lynn Manns

*Shepherded and workshopped at PLoP'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

In Your Space

Keep the patterns effort visible by placing reminders throughout your organization.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization.

How can you keep patterns in the minds of individuals?

Technical people like to be in the know and are willing to get to the bottom of anything new. They don't usually take time to periodically look at the pattern repository but they'll notice, and are likely to discuss, things that are put in places they frequently encounter in a typical workday, like white boards or bulletin boards in high traffic areas in an organization.

"Because members have to have a way to get to know each other, a community can't really exist without gathering places—mailing lists, message boards, chat rooms—wherever a group can come together and talk amongst themselves." [Kim00:29]

Therefore:

Post patterns written in your organization, and other pattern information, on white boards or bulletin boards, preferably in high traffic areas.

For example, a "Pattern of the Week," will draw attention and can stimulate discussion from people passing by. These patterns can be "ready for prime time" (the ones that also appear in a repository) or proto-patterns that are not yet in the repository because they still need review. If a proto-pattern is displayed, it should be marked as such. Change patterns on the same day each week (or other time period) so that people know when to look for a new one.

This area can also be used to announce upcoming patterns events, such as a Brown Bag or a Big Jolt.

This must be a highly visible area, yet pleasing to the eyes of those who display their work and those who will read it.

You can also include an intriguing quote to capture attention. Associate the identity of the Dedicated Champion with the spaces. Leverage any queries with a Personal Touch towards building or maintaining a Grass Roots effort.

Patterns will stay "in the space," and in the mind of the organization. Those who see the patterns will be inspired and might decide to write a pattern too. Those whose pattern(s) are displayed will see that they are valued by the organization and this may encourage them to write more. The board will also provide the opportunity to discuss and review the pattern.

Since this "space" is most likely in a high traffic area, it may be easy for people to read it, but then simply forget it as they move on to where they are going. However, Gladwell speaks of the importance of packaging information so that it is noticed and not forgotten. Referred to the "the stickiness factor," one of the ways to make a message "stick" is to provide ways for the viewers to be more than just an audience of the information, to also allow them to be participants. [Gladwell00:95] Therefore, In Your Space recommends including a "Pattern of the Week" in the "space" to encourage viewers to become participants by displaying their patterns and by giving feedback for the patterns that are displayed by others.

Patterns like HandsInView are popular because they capture the imagination. Just posting any pattern won't garner interest. It must be odd, unique, or maybe even questionable. Something that sparks conversation and pushback helps improve the pattern or uncover new patterns.

The ideal space is really one that allows spontaneous feedback, like a white board. A bulletin board (of the cork variety) should provide a way to scrawl graffiti.

This technique was used at W. A board containing "Pattern of the Week" was placed in a high traffic area. It was a whiteboard with a pen nearby so that individuals could make changes in the pattern.

One Evangelist writes, "In my organization, the disciplines are highly disparate and a new technology simply doesn't garner widespread interest. It is expected that the use of patterns could be useful across disciplines, but it is not really known outside of Architecture and Software Engineering. In Your Space is a way to capture eyes, imagination, and interest towards patterns in much the way as Don Olson's HandsInView (advising a skier to always keep her hands so they can be seen [Olson98a]), by showing a useful pattern that is not necessarily technical."

Originators: Mary Lynn Manns and Carol Stimmel

*Shepherded and workshopped at PLoP'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Innovators

Ask for Help from the small group of colleagues who are interested in patterns.

You're a new Evangelist or Dedicated Champion trying to introduce patterns into your organization.

You know the job of introducing a new idea is too much for one person to do alone. How can you begin to grow a community of people interested in patterns?

You can't get something significant going all by yourself. Even though everyone is busy, there are always a few people who like to know about new ideas. They will attend Brown Bags and other meetings where new ideas are being introduced.

Peter Senge recommends that you, “seek to establish a community of people, even if it is only a few, who share your interest and want to work together. A small group of genuinely interested and committed colleagues will make a world of difference amid the confusion and inconsistencies that invariably arise in organization wide movements.” [Senge90:xxiii]

The often cited work of Rogers tells us that on a normal curve of adopter categories, approximately 2.5% of a social system can be classified as “innovators,” where, “The salient value of the innovator is venturesomeness, due to a desire for the rash, the daring, and the risky ... the innovator plays an important role in the diffusion process: That of launching the new idea in the system by importing the innovation from outside of the [organization] boundaries. Thus, the innovator plays a gatekeeping role in the flow of new ideas into the system.” [Rogers95:264]

In *Crossing the Chasm*, Moore points out, “There are not very many innovators in any given market segment, but winning them over at the outset of a marketing campaign is key nonetheless, because their endorsement reassures the other players in the marketplace that the product does in fact work.” [Moore99:12]

Therefore:

Ask for Help from small group of co-workers who seem especially interested in new ideas. Enlist their support. Encourage their participation. Listen to their suggestions for appealing to a larger community—the Grass Roots. Find ways to reward them for their help.

You won't feel so alone in what can be an uphill battle to spread the word. Some of the Innovators will help you grow a Grass Roots movement but be careful not to lean on them too much and wear them out. Don't forget to encourage and reward them as much as you ask for help.

Innovators may tolerate something half-baked, but because they are busy they must see that it is worth their time. While they want to be first to “get the new stuff,” they want the truth without any tricks [Moore99:32]. Make sure you've done your homework before enlisting their support.

The impact of the Innovators as opinion leaders may be limited. Rogers notes a fundamental principle of human communication—exchange of ideas occurs most frequently between individuals who are alike. Therefore, the Innovators' interest in new ideas and venturesomeness makes them very open to other Innovators, but may make other, more practical, individuals suspicious of their claims [Rogers95:286,263]. When this is the case, their impact may be more indirect – they become the gatekeepers, the ones who have

the interest to learn about new ideas and the ones everyone else deems competent to do the early evaluation and provide some evidence these ideas have the potential to be useful to others [Moore99:32].

Find Innovators who have access to managers [Moore99:33].

Use Brown Bag, Do Food, and Personal Touch to entice Innovators. Two of the ways to reward Innovators is with Treasure or Royal Audience.

The patterns community at A began with Brown Bags that were attended by a small group of Innovators. These people were invaluable to the Evangelist, since many of them had been with the company for a number of years and could offer suggestions about reaching others in the organization.

A small group of Innovators helped to spread the word about patterns at W.

Originator: Linda Rising

Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Involve Everyone

For any new idea to be successful in an organization, you must make sure the idea reaches everyone.

You're a Dedicated Champion, trying to grow the Grass Roots.

There's always a danger that when some success is evident, it's easier to just rest on your laurels and stay within your comfort zone. But this won't give you organization-wide impact.

Sometimes a group that's interested in patterns can become a clique. When a group focuses on a new idea it's easy to become isolated from the real needs of the organization. It then becomes easy for others who aren't part of the effort to become defensive and withdrawn, and perhaps afraid of not being able to keep up with changing technology.

Although people may be too busy to keep up with all the latest trends, they can become interested if they are given learning opportunities appropriate for their needs. Sometimes they just need to be given a chance to feel a part of something new.

Therefore:

Even though spreading the new technology is part of your job description, you must continue to play the role of an Evangelist. Make everyone feel welcome in the new community. Build enthusiasm, pointing out specific benefits, particularly those of interest to each individual. [Webster95:57] Use Personal Touch.

Involve people from as many different groups as possible: management, developers, testers, support people, marketing, training.

Let everyone know of the many opportunities that can be enjoyed. Use e-Forum and In Your Space to promote these opportunities.

Create a community of learning. The best people thrive in this kind of environment. [Webster95:35]

In this kind of community, learning is an essential part of the organization. Learning is encouraged and there is a lot of active involvement in Study Groups, on-site courses, off-site training and degree programs. People like to learn and are more excited and happy in their work when they have opportunities to continue acquiring knowledge, especially if it is useful for their work.

Everyone, even those who don't want to take a great deal of effort, is given the opportunity to become involved in growing and sustaining the patterns culture. The patterns effort will be strongest if everyone, or almost everyone, plays a part in sustaining it. Shared pattern experiences can go a long way to keep others in the organization interested.

This pattern has been successfully applied at A. Everyone in the organization, not just development, was involved in the patterns community: system test, marketing, management, and product development.

This pattern has also been used at F. Presentations have been given to the entire company. The feedback from these presentations has allowed everyone to increase their involvement in patterns.

Originator: Linda Rising

*Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).
Shepherded and workshopped at PLoP'97 (September 1997).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

Just Do It

To prepare yourself for spreading the word about patterns, gather first-hand information on their benefits and limitations by integrating them into some of your current work.

You are an individual contributor to a project (perhaps an Evangelist want-to-be) that is motivated to adopt patterns. You are interested in spreading the word to the bigger organization, but you don't have enough experience to effectively evangelize. You will be unable to find a Corporate Angel because you can't fully explain the benefits of patterns from first-hand experience. There is no support for a Pilot Project. However, your local group has some perhaps limited tolerance for experimentation.

How can you position yourself to become an effective Evangelist to spread the word about patterns?

New ideas usually incur resistance. You don't want to make a big deal out of something in the organization too soon or people might reject it because it has no internal track record.

You need concrete knowledge of patterns before trying to spread the word to an organization. Since supporters of the status quo will have plenty of reasons why a new idea shouldn't be adopted, the Evangelist must be able to provide some rationale for patterns. A lack of hands-on experience is easy to attack for opponents. On the other hand, positive hands-on experience is difficult to refute. In addition, understanding the limitations of patterns helps the Evangelist avoid overselling and provide insight into approaches that will work.

Therefore:

Apply patterns in your current work. For example, you might incorporate design patterns into design sessions, presentations, system documentation, and code. Gold Mine for patterns in these places. Record any benefits and pitfalls of patterns (ideally find a way to quantify the benefit, although this is typically very difficult). You might be able to add relevant pattern references to an existing design document template.

You will gain experience in using patterns. After using them first hand you will have some lessons learned, some concrete ideas and a Hometown Story to use in a larger process of spreading the word.

You might even have created the start of a framework or process that other teams can use as a prototypical example in a Pilot Project. Once in a while an idea will catch hold and grow quickly in the organization without additional effort.

If your initial efforts are not successful, you will need to reconsider the use of patterns or try again with a deeper insight into their limitations.

An Evangelist at M used this approach several times to help alter development practice within software organizations. The most successful example was the introduction of an object oriented software interface specification practice. The system engineering organization was using an old interface development practice (a derivative of a hardware development technique) that did not fit well with object oriented development approach used for software development. A document was created, a Programmer Interface Guide (PIG for short—a catchy title really helps) and used to document several interfaces. Even developers outside the group immediately saw the benefit of this approach. A process was written to augment the document, support tools were developed, and the concept was adopted by the entire organization. Without a concrete

example, built internally, this infusion of object oriented programming practice would not have been adopted.

Originator: Jeff Garland

Workshopped at the OOPSLA'00 "Introducing Patterns into Organizations" workshop (October 2000).

***Just Enough**

To ease individuals into the more difficult concepts behind patterns, provide brief exposure to these concepts in the beginning with resources for them to learn more when they are ready to do so.

You're an Evangelist or Dedicated Champion working to spread the word about patterns in your organization.

How do you introduce the difficult, complex concepts behind patterns to novices without overwhelming them?

The concept of a pattern and a pattern language is difficult. As Dick Gabriel has said "Alexander could have written a one-sentence definition of a pattern or an essay, but instead he wrote a 550-page book. Because the concept is hard."

Concepts such as QWAN, generatively, and even pattern languages cannot be clearly understood in a short period of time. However, individuals should have a grasp on these concepts at some point if quality patterns and pattern languages are to be written in the organization. Providing a thorough explanation of such rather complicated concepts during the time you are first introducing the basics of patterns can put people on the right path to striving for better patterns and pattern languages, but can also risk confusing them and possibly turn them off from the whole idea of patterns.

Therefore:

When presenting the basic concepts behind patterns, include some information on the more complicated concepts, such as QWAN and generatively. (If doing a presentation, include a slide or two.) Give a brief, simplistic overview, but mention that these topics are much more complicated. Justify that you are merely introducing these important concepts in order to make them aware but not to overwhelm them with too much detail at this early stage in their learning.

Explain to them that it is all right and probably most realistic to start small and simple, but encourage them to look at these concepts again in the future. Provide references for them to do so and let them know that you are available to help. If you have the opportunity, perhaps in another presentation or informally in a discussion, revisit these ideas that you are merely introducing at this time.

Learners will then be aware of the existence of the difficult to understand concepts in creating quality patterns, and will receive the encouragement and resources they need to look at these concepts again once they have more experience with patterns. They will not be overwhelmed with too much detail at once. Instead, they will request information when they are ready to receive it. They will build their knowledge about patterns as they are ready to do so, after they have a foundation in the basics.

This relates to the approach Alexander recommends for creating a complex building structure, "... build a building in such a way that it starts out loose and flimsy while final adaptations in plan are made, and then gets stiffened gradually during the process of construction, so that each additional act of construction makes the structure sounder." [Alexander77:963]

This can also relate to how large, complicated software systems are built. We create the foundation for a software system around what we know, what we understand from the analysis, and then add incrementally as we understand more about what the system can and should do.

However, those who are enthusiastic about spreading the word about patterns may find that this approach is too slow.

The patterns community appears to be taking this approach in their examining and attempting to understand what a pattern is and what patterns and pattern languages can do for the software industry. John Vlissides seems to agree. He raised the following question during an OOPSLA'2000 panel, "Is it possible to set the bar too high too soon for what a pattern should be?"

This pattern should be used with Personal Touch and Hometown Story.

In the "Introduction to Patterns" course at A, bulleted items on overheads that presented difficult topics were usually covered using this approach. A high-level discussion was initiated that could become deeper depending on questions raised by participants.

Originator: Mary Lynn Manns

Keep It Going

Take a pro-active approach to the on-going work of sustaining the interest in patterns in your organization.

You're a Dedicated Champion trying to Involve Everyone and grow the Grass Roots.

How can interest in patterns be sustained in an organization?

Without pro-active efforts, any new idea can wither and die on the vine. It takes work to maintain interest. It will not survive unassisted. Failing to reinforce the benefits of patterns runs the risk that excitement and interest will fade, especially when people get busy with other things.

Even when a new idea has been accepted and used, individuals require periodic confirmation to reduce the possibility that they will discontinue their use [Rogers95:20; Chew+91].

As Price Waterhouse notes, "Newton's Third Law was never so true: An object at rest tends to stay at rest until acted upon by external forces. ... Stakeholders need continuous invitations to become involved, continuous reassurances that they will get their wins" [PriceWaterhouse95:60].

Therefore:

The Dedicated Champion and all the supporters of patterns must be pro-active in their efforts. They must continually:

- **Be aware of outside events and call them to the attention of the organization.**
- **Read new literature and send along important information to appropriate people.**
- **Attend conferences that allow opportunities to learn new things about patterns and to network with others interested in patterns and share successes/failures.**
- **Use In Your Space and e-Forum to spread information about patterns throughout the organization.**
- **Bring in outside experts, trainers, and consultants.**
- **Encourage and provide opportunities for those who use and/or write patterns to share their experience with others. Use Hometown Story.**
- **Lead pattern mining sessions to keep the repository growing. Use A Pattern of Their Own**

The patterns effort is kept in the mainstream, reinforcing individuals' decisions to use and/or write patterns. Members of the organization will have a sense of keeping up with the latest and greatest, even when they are too busy to take advantage of everything that is offered.

Those who are not yet involved with patterns are given reminders of what others are doing and the benefits that can be gained. The Dedicated Champion is also reminded that the work is useful and of interest to the organization.

This pattern has been successfully applied at A.

This pattern has also been used at F.

Originators: Linda Rising and Mary Lynn Manns

Local Leader

The prerequisite for an Evangelist to become a Dedicated Champion is to enlist the support of management. When your boss lets patterns activity become part of your job, you can truly be effective.

You're an Evangelist, trying to introduce patterns into your organization.

How can you get attention and resources for your new idea?

You can entice people to meetings with intriguing e-mail messages and Do Food for just so long before you get burned out. It's hard to get people involved unless they think there's a real pay-off. Management support legitimizes things in the workplace.

"We have seen no examples where significant progress has been made without [Local Leaders] and many examples where sincerely committed [Corporate Angels] alone have failed to generate any significant momentum." [Senge96]

Korson and Vijay have made a similar observation, "Site leadership is critical...experience suggests that where the technology will really make an impact across a broader spectrum, versus just a small project, is in those cases where [local] management...takes responsibility for committing the site to the technology...." [Korson96]

Therefore:

Find a Local Leader to support patterns, ideally, your immediate supervisor or boss.

Senge describes this role: "[Local Leaders] are individuals with significant business responsibility and 'bottom-line' focus. They head organizational units that are large enough to be meaningful microcosms of the larger organization, and yet they have enough autonomy to be able to undertake meaningful change independent of the larger organization." [Senge96]

The Local Leader keeps the focus on business results and can commit limited resources to efforts that can show results.

Recent research [Green+00] shows that the degree to which adopting an innovation is voluntary increases both the developers' sense of control of their environment and suggests that the Local Leader should encourage but not mandate the use of an innovation.

To help keep the Local Leader interested, Stay Close and if a Big Jolt visit is planned, offer the chance for a Royal Audience.

The Local Leader can also help you find support at a high-level and is your best hope for identifying a Corporate Angel.

The Local Leader may play the role of Coplien's Fire Walls (keep pests away) or Patron (project champion and high-level decision-maker). [Coplien95]

*This pattern has been successfully applied at **A**. Two Local Leaders have supported the patterns activities and the work of a Dedicated Champion. The Local Leader was instrumental in opening the door to the Corporate Angel.*

*This pattern has also been used at **F**. In a small organization, the Corporate Angel could also be the Local Leader and the Dedicated Champion and may also be involved with project implementation.*

*The pattern effort would not have been started at **W** without the budget from the Local Leader to support the Dedicated Champion.*

Originator: Linda Rising

Workshopped at the OOPSLA'96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

My Gold Nugget

Show students many different patterns in order to find ones that are most likely to address problems the students have struggled with. Try to find a "gold nugget" for each student.

At the beginning of a patterns course, it is important to get started right. You have a class full of people from (presumably) different backgrounds. The first few minutes of a course is the critical time for catching their attention for the entire course.

To the casual observer, patterns tend to look like just "nice simple ideas", or an interesting way to format knowledge. Patterns are much more, but it is often hard to get beyond this simple-looking façade.

Patterns *are* solutions to problems, and they are *proven* solutions, so they are not new. Some may be well known. On the surface, this isn't terribly exciting.

Patterns tend to be fairly simple ideas. In fact, complex patterns are often broken into smaller patterns. Even more important, patterns belong to pattern languages, and don't stand alone. So a single pattern may look simple and even mundane. But the instructor must use simple patterns when teaching; there isn't time to delve deeply into pattern languages or complex single patterns. The students, after all, are just learning the basics of patterns.

Many people's exposure to patterns is limited to the so-called Gang-of-Four patterns [Gamma+95]. But that view is very limited, and we want to go beyond it. We want to show both the practical nature of patterns and the philosophical nature. To do so, we must get beyond the initial view of patterns.

Experience has shown that when they are first introduced to patterns, most people tend to be apathetic to patterns, until they see a pattern that directly relates to their own experience. Then they get excited about patterns.

In any class, the first few minutes are the most critical. In that time, the instructor can capture the attention of the class, or lose it forever. At the start, students are naturally attentive; they expect to learn something new. They are the instructor's to lose. It is much easier to hold the attention of the class than to recapture it if you have lost it.

Therefore:

Early on, show students many different patterns, carefully selected to address problems the students are likely to have struggled with. In this way, you attempt to find a "gold nugget" for each student, and capture the imagination of as many students as possible.

The key here is that domain knowledge plays a significant role in the motivation of patterns. We want to bring patterns into the realm of the students' experience and expertise; only then will they catch the vision of patterns. Without that, patterns are just another buzzword.

Certain patterns address problems that nearly everyone experienced in that domain has had; make sure to include them. For example, most OO programmers have had the need for a Null Object [Woolf97]. C++ programmers will relate to patterns of localized ownership in C++ [Cargill95]. Designers of highly available systems will recognize Leaky Bucket Counters [Adams95]. If possible, evaluate the background of the students before the course begins, and select patterns accordingly. Otherwise, pick patterns that are generic, and those that don't require deep domain knowledge.

It is important to introduce these patterns very early in the course because they are designed to catch the imagination of the students. Once the light comes on for them, they will be eager to learn all about patterns. Tom Cargill started his classes with the Null Object as his introduction [Cargill97].

As you introduce the patterns, it is helpful to highlight the problem first, and try to relate it to the students. Then explain the solution. The intent is to pique their interest with the problem, a problem they themselves may have had. Then when you introduce the solution, they are ready to understand and accept the associated pattern.

It can also be helpful to show parts of a pattern language, so that the students begin to get a feel for how a pattern language is much more than the sum of the individual patterns. Some of Alexander's patterns in "A Pattern Language"[Alexander+77] work well. Note that it was originally thought that pattern languages were too complex to be introduced early, but our experience now argues that pattern languages are too fundamental *not* to be introduced early.

A closely related pattern is Personal Touch. This pattern differs in that in a classroom, you have several people with different - unknown - backgrounds. So you must present several patterns, and try to hit a problem they have had in the past.

When a student sees a pattern that solves a problem he or she has struggled with, it is like a light goes on. They suddenly see the value of patterns, and become excited about them. If they solved the problem, it is likely the pattern shows their solution, and they get excited to see their ideas written down. If they didn't solve the problem, then the pattern shows them how to solve it. Note, though, that this may make some think that patterns are indeed trivial. You can counteract this notion by showing pattern languages, and by using the pattern So What's New?.

It is probably not possible to reach every student in every class. Some will just not get excited about patterns. One does what one can.

Originator: Neil B. Harrison

Shepherded and workshopped at KoalaPLoP'01 (May 2001).

Pattern Mentor

When a project wants to get started with patterns, have someone around who understands patterns.

You're a Dedicated Champion, trying to introduce patterns into your organization.

A project is interested in patterns but has team members who are unfamiliar with patterns and is therefore unsure about their use.

How can you help people learn how to make use of patterns on a project?

If the project members are willing to introduce patterns into their project, they can study patterns to some extent. However, they might need guidance in applying patterns since they are not necessarily experts.

On the other hand, the number of experts in patterns may be relatively small compared with the number of projects. The experts do not always know about the domain on which the software is being developed, nor have much time to understand the domain.

Goldfedder writes, "Several organizations I worked with initially staffed [Pilot Project] with people who had no real understanding of object technology and thus the evaluation showed that objects would not work in environment X. I have seen similar things happen in recent years with patterns. I still recommend the proof of concept starter projects as a training experience but always recommend having an external expert involved in helping to jump start the efforts." [Goldfedder(in press):38]

Therefore:

Hire an outside consultant or trainer or take on the role of a Pattern Mentor to provide mentoring and feedback for the project members. The mentor to be an expert in the domain. A single Pattern Mentor can support several projects at the same time.

The Pattern Mentor should use a hands-on approach, work side by side with the team, and let them know that he has struggled with the same problems. This will help open their minds to the new technology. [John Letourneau, workshop contribution, ChiliPLoP'2000]

Project members will receive help with patterns and develop confidence in their use of patterns and then be able to help others.

Ideally, it is best to send the entire team to training together to prepare for the project, as described in Don Olson's pattern, TrainHardFightEasy [Olson98b]. The training could be internal and the trainer also play the mentor role, or the training could be external. In either case, the benefit lies in the shared experience of training together as a team, which not only enables the team to communicate effectively about the new topic but also serves as a team building exercise.

This pattern has been applied to the introduction of design patterns into a software development project at T. In this development, the Pattern Mentor was also a member of the development project.

T is also planning to develop a CASE tool that behaves as a Pattern Mentor for design patterns.

At A, patterns training was available to anyone in the company. In some training classes, the instructor worked as a consultant with teams who were taking the class together. This combination of classroom instruction and hands-on Pattern Mentor was very effective.

B reports the role of a Pattern Mentor as one of their “lessons learned”. Jim Coplien says that “the use of pattern mentors in an organization can speed the acceptance of patterns and can help provide a balance between encouraging good design practices based on patterns and discouraging overly high expectations of designs based on patterns. Initially Pattern Mentors can help developers recognize the patterns that they already use in their application domain and show how they could be reused in subsequent projects. Pattern Mentors should also watch that the wrong patterns are not applied to a problem (i.e. people tend to reuse things that they know and the same temptation will apply to patterns, regardless of whether the pattern actually fits the problem).” [Anderson94]

Originator: Junichi Yamamoto

*Workshopped at the OOPSLA’96 “Introducing Patterns into the Workplace” workshop (October 1996).
Shepherded and workshopped at PLoP’97 (September 1997).
Shepherded and workshopped at EuroPLoP’00 (July 2000).*

Pattern Writing Guided Tour

Teach students the structure of a pattern by directing them in writing a pattern as a group.

You have introduced the students to the basics of patterns. Now it is time to move deeper, namely into the structure of patterns.

One of the best ways to gain insight about patterns is to write a pattern. But it is very hard to begin writing a pattern if the student is really new to patterns.

In just about every field, experience is the best teacher. But there is always a bootstrapping problem: the students must learn something about the topic before they can begin to learn about it through experience. This creates a fine line that the instructor must walk.

Patterns have an additional wrinkle that makes teaching them difficult. There is a logical flow of information through a pattern, no matter the form. It begins with a name, then goes from context, problem, forces, to solution and resulting context. This is the logical way to read patterns, and the natural way to teach them, but it is not the typical order of writing patterns. One usually begins with a solution in mind, then derives the problem and other sections. Starting to write at the top; with the pattern name, is often an invitation to writer's block.

It is hard to write poetry—and patterns—on demand.

The meanings of the context and forces sections in a pattern are a bit difficult to grasp. Indeed, it isn't always clear whether certain information goes in one or the other section. In practice, there is iteration among these (and other sections). But it's hard to teach, even by showing examples.

Examples are helpful in almost every teaching situation.

In a typical classroom, the majority of the students will not go on to become pattern writers. In fact, many are likely not natural writers. Both these conspire to make writing a pattern difficult. However, the experience is still valuable, because it helps the student understand patterns in more depth.

Therefore:

Introduce a well-defined pattern form that explicitly shows the sections. Teach them the form as well as the typical order of writing by leading them through the process of writing a pattern as a group exercise.

The instructor is a "tour guide", leading the students through a typical flow of generating and writing ideas for the purpose of producing a pattern. The key is that the students learn the pattern form by seeing it in action, and they see the pattern writing process. You are teaching them more than the sections of the pattern, you are showing them how patterns emerge.

Here is the way I often do this (I use a pattern I call "Body Follows Eyes"):

First, I describe and demonstrate various solutions in sports: Hitting with power in T-ball, running a slalom course in water skiing, golfing, skiing the steep mogul slopes (Hands in View² [Olson98a] -- a specialized pattern of Body Follows Eyes). Usually the students will suggest one or two more. Students have suggested target shooting and driving a car. Then we talk about what all these have in common.

Then I ask them to give me a few sentences that describe the general solution for all these. I write their suggestions down on a piece of poster paper that has the heading "Solution". We tape the paper with the solution (and later, the other section) to the walls of the classroom.

I talk about characteristics of a good solution. I then ask what problem this solves. I write their comments, and tell them about problem statements.

"What makes this a hard problem?" This question usually generates a lot of insightful comments. We discuss forces here. I also ask when the solution works, and when it doesn't, thus setting bounds, or context. We discuss characteristics of forces, as well as context. There is often iteration between the context and the forces sections; the students learn the nature of such iteration by experiencing it.

About this time, we discuss the name of the pattern. We talk about qualities of good pattern names, and the give suggestions for the name of the pattern.

We then talk about resulting context, and often finish with a sketch and attributions. At the end, we have a very rough first cut at a pattern, with at least something in every section. We might also discuss other concepts that might form other patterns in the language.³

This exercise should be followed with the assignment to write a pattern. It is the intent that they follow the above order as they write this pattern. If they continue to write patterns, they will develop their own style of writing.

Note that this approach has been used with the Coplien pattern form. It would not work terribly well for teaching the Alexandrian form (like this), where the sections are not nearly as explicit as in other forms. It is important that the students learn what goes into a pattern, such as problem, forces, etc., and having an explicit form helps them learn. They can subsequently convert it to Alexandrian form if they wish.

Although this pattern has been shown to be helpful, it alone cannot help with the biggest problem that many students face: what to write about in the first place. See Hero Story.

This has been done as in other contexts. After project retrospective sessions at D, they name the lessons they learned, and write one of them as a pattern.

Originator: Neil B. Harrison

*Workshopped at the OOPSLA'00 "Introducing Patterns into Organizations" workshop (October 2000).
Shepherded and workshopped at KoalaPLoP'01 (May 2001).*

² Hands in View: The skier fails to commit downhill on steeps and bumps; therefore concentrate on keeping the hands in view.

³ Use of Body Follows Eyes can lead to an interesting trap, which is that we introduce it by showing several instances of its use. One might write each as a separate pattern. It would be tempting to view such patterns as a pattern language, but they aren't, because pattern languages are all about *sequences*. This might be an opportunity to discuss the sequential nature of pattern languages, by asking what patterns might be needed before one can apply the one you wrote, and what patterns might logically follow.

Personal Touch

Contact individuals to discuss how patterns can be *personally* useful and valuable to them.

You're an Evangelist or Dedicated Champion who is introducing patterns into an organization.

What can you do to encourage an individual to take an interest in patterns?

Changing a paradigm in an organization really means convincing the individuals in the organization. Coplien has noted, "Change happens one individual at a time."

Rogers reports that success in securing the adoption of an innovation is positively correlated to the amount of effort in communicating with individuals and the degree in which that innovation is compatible with individuals' needs. Unsuccessful change projects were ones that ignored the needs of users [Rogers95:339-40]. Therefore, "it is the task of the change leader and the change project team to identify and link the needs (and wins) of each stakeholder to the benefits of the project." [PriceWaterhouse95:52]

However, it may not be apparent to all individuals how they can make use of patterns. Information sessions and training will go a long way to make individuals curious and interested in patterns, but you must do more to ensure that the interest is strong enough to be sustained. Individuals that see a personal advantage in a new idea will move past curiosity and interest toward enthusiasm, creating the momentum needed to stimulate the growth of patterns throughout the organization. People take change personally, so you should help them understand the "legitimate personal wins resulting for them from the changes you envision." [PriceWaterhouse95:51]

Old habits die hard, and often not without special effort. A personalized approach may be the only way to capture the interest of some individuals.

Therefore:

Talk to individuals about ways in which patterns can be *personally* useful and valuable to them. Find one or more patterns that might help the individual with a work-related problem. Continue to help solve other problems with patterns until enthusiasm is sparked in this individual. You must be able and willing to listen to others, even consider "eavesdropping" on problem discussions when appropriate.

If possible, choose a comfortable, informal environment for discussions.

Encourage others who are already making use of patterns to help with this effort, especially those who are known to and respected by the individuals you are trying to convince. To be most effective, people with similar interests should be introduced. Rogers points out that "A fundamental principle of human communication is that the exchange of ideas occurs most frequently between individuals who are alike ... Individuals enjoy the comfort of interacting with others who are similar." [Rogers95:286-7]

People who find something useful are likely to become excited about it and talk about their "good fortune" with their friends and colleagues.

However, people can rely too much on you to find "solutions" to "their problems." This can take time away from your primary responsibilities. Create an e-Forum and use In Your Space to help.

Use Just Enough. Use A Pattern of Their Own when these individuals want to learn more.

*This technique was used at **W**. When individuals showed interest in patterns, the Dedicated Champion stopped by their office or invited them for lunch or coffee to discuss ways patterns might be helpful.*

***A** began to spread the word about the usefulness of patterns by showing individuals how they could use the GoF patterns. They claimed, "Immediate results, it hooked them in." Innovators also used this approach. Those who were excited early on about patterns seemed to naturally work one-on-one with others on their teams to show them how patterns would be personally useful.*

*"This pattern is essential to keep any new technology (or process improvement) going." At **A**, the Dedicated Champion used this during postmortem sessions. When she heard about troubles in a project, she was quick to point out patterns (design, organizational, customer interaction, etc.) that could help.*

*One consultant used this pattern when introducing patterns to **H**. He "first figured out what their frustrations were" and then identified patterns that would help ease those frustrations.*

This is what shepherds do in the pattern community. They take a personal interest in the work of the person they are shepherding.

*One consultant notes that this pattern can also work on a collective level. When he visited **P** with organizational patterns, it was clear the patterns addressed problems whose perception was widely shared by the team, for example, Firewalls (protecting engineers from requests from marketing for a change in direction.) This pattern, therefore, may be more powerful when you appeal to the pain of a shared cultural malaise.*

Originator: Mary Lynn Manns

*Shepherded and workshopped at PLoP'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).*

***Pieces of Clay**

To convince the organization of the value it can gain from patterns, tailor your message to the needs of the organization.

You are the Dedicated Champion and have attracted some Innovators. You are using Personal Touch and My Gold Nugget to show individuals how patterns can be personally useful. You also need to show how patterns can be useful to the organization.

How can you build the case that patterns have a place in the organization?

When presented in isolation, patterns can appear to be just an interesting idea. The benefits that they can provide to an organization are not always apparent. While individuals are often intrigued about interesting ideas, organizations are not quick to adopt something that is merely interesting.

The value of patterns is not quickly visible; the benefits do not usually appear overnight. Yet, when considering any new idea, management often wants to see the potential that idea has for adding value to the organization.

The organization will be more likely to adopt something new if it can see how it fits into and improves what the organization already does.

Fichman & Kemerer explain, "... organizations are more likely to be willing and able to adopt innovations that offer clear advantages, that do not drastically interfere with existing practices, and that are easier to understand." [Fichman&Kemerer93:9]

Therefore:

Tailor your message about patterns to the needs of the organization. Find a place in the organization where patterns can meet those needs. Begin by studying their infrastructure and processes. Look for places where patterns can be integrated into existing processes. Consider the organization's business requirements and goals. Then, propose ways in which patterns can improve what they already do. In other words, persuade them from their point of view. Show how patterns can help them go where they want to go.

This pattern relates to a commonly heard piece of advice – Don't sell the technology, sell the business solution.

The organization will see patterns as something that improves what they do, rather than simply an interesting idea that doesn't appear to have a place in the organization.

Although this requires you to adapt the message for each organization in order to tailor patterns to its needs, one must be careful to present a consistent face to all organizations.

Thanks to Shawn Dagley, Sales Director at D, for his comment that sparked the idea for this pattern's title. He drew an analogy between a product his company is selling and "pieces of clay" – let's mold [the product message] to where [the customer] wants to go.

Thanks to Russ Stinehour of C for the additional inspiration for this pattern. He said that his clients would be interested in patterns only if it could be shown how patterns can improve the client's existing processes. (He referred to this as the "Meat on the Bones")

At D, patterns have been introduced into the organization by including pattern writing as part of the organization's project retrospective process. The concept of patterns is introduced during the second half of a retrospective event. Participants then record the lessons they learned during the retrospective in pattern form. The goal is to build a pattern repository from the "lessons learned" during project retrospectives.

A manager at G found it difficult to convince another manager of the value of patterns until she mentioned that patterns could be used as a tool in the organization's knowledge management efforts. This finally served to convince this manager that patterns could be of some value in their organization.

This pattern was used to spark the interest in pedagogical patterns among the faculty at N. The advertisement for the initial presentation to the faculty appealed to their desire to capture and share practices in teaching and learning with each other. The presentation highlighted this need, and then introduced patterns as a way to capture these practices.

This pattern may be implemented in a Solution Alignment Workshop. An Evangelist at D uses this workshop to determine how to tailor out of the box solutions to meet a customer's requirements. The purpose is to quickly and directly focus the customer on the available solution and their issues relevant to immediate usage of that solution.

*The originator of this pattern acknowledges some failed attempts to convince people of patterns because she did **not** use this pattern.*

Originator: Mary Lynn Manns

Pilot Project

Identify a small group of Innovators to use patterns in a real software project as a pilot project.

You're a Dedicated Champion. You have a group of Innovators who support the new idea.

What's an effective way to show how patterns can play a role in your organization?

You need some evidence of the usefulness of your new idea early on. Most people are too busy to keep up with all the latest trends but they are always interested in getting their work done better, faster, cheaper. People are more likely to accept new ideas that they can understand and apply successfully. A Pilot Project provides good practical experience that will benefit the rest of the organization.

Brandon Goldfedder writes in *The Joy of Patterns*, "...many organizations [evaluated] the use of objects through small projects to 'prove' the technology. This approach (which I've also seen applied in the last few years to patterns) works fairly well, if the team doing the prototype project is knowledgeable in the correct application of the technology." [Goldfedder01:38]

Therefore:

Identify a small group of Innovators to develop real software in the narrow scope of a pilot project. Document any patterns identified as a result of this experience to share with others.

The Innovators will increase their understanding of patterns and be able to apply them to their work; others can see this application and become enthusiastic about patterns. The patterns will become effective tools to increase software development productivity in your organization.

The project will also provide an opportunity for writing patterns in your organization and create a legacy for other projects.

Advertise the results of the Pilot Project with a Hometown Story.

This pattern has been successfully applied in a project at J. The Innovators were novices at object-oriented technologies, but the pilot project produced good practical patterns. These patterns increased the software development productivity by the end of the project.

This pattern has been used at F. Innovators were involved in a pilot project to refine the new technology.

Originators: Rieko Yamamoto and Tadahiro Uehara

Workshopped at the OOPSLA'00 "Introducing Patterns into Organizations" workshop (October 2000).

***Plant the Seeds**

Carry pattern materials (seeds) with you to plant the idea of patterns whenever the opportunity arises.

You're an Evangelist or Dedicated Champion working to introduce patterns into your organization.

How can you stimulate some curiosity about patterns among others?

Technical people like to keep up on the latest buzzword and are drawn to sources of information, especially if they can have a close look, take a handout with them or even borrow a book.

Rogers has shown that mass media communication, such as books and other publications, is very persuasive when individuals are in the early stage of a decision, known as the "knowledge" stage [Rogers95:195].

Therefore:

Carry patterns material (seeds) with you to plant the idea of patterns whenever the opportunity arises, for example, a collection of patterns, a supply of articles on related topics, a stack of books. When you give a presentation or attend a meeting, people will be drawn to these "seeds," pick them up, and ask about them. When you tell them the story behind the "seeds," they may become interested in a particular pattern or topic and take a copy of a pattern or an article on the topic, or borrow a book. They may stop by your office later or send an e-mail asking for more information. If they do, tell them a little about patterns (Just Enough) and how they may be useful to them (Personal Touch).

Just having the "seeds" will attract some people. If you refer to the patterns, papers, or books during a presentation, you'll reach listeners who are interested in a specific topic.

We're bombarded with URLs for more information than we can absorb. Instead of a list of URLs, having the article to scan and perhaps take along or a copy of a book to consider means that people will see the information you think is important and if it seems useful, they will ask for more. If you do make URLs available, send them by e-mail to save the recipient the trouble of typing it in.

You might be scheduled to give a presentation late in the day. The seeds will attract attention and get conversation going during breaks before you talk. The seeds can also serve as a reminder to the moderator to make sure you're not forgotten!

Carrying a collection of patterns materials can be problem on a plane. Even in a car, you might have to make several trips to the parking lot or get help unloading material. If books are displayed, you run the risk that someone could borrow one and not return it.

One consultant takes patterns books to every OO or UML training course he delivers in industry. They always get a response. In fact he's learned only to bring them out on the last day, or he loses the attention of the participants for the topic at hand. Most often, if consultancy follows, it's on patterns, not UML.

Patterns book were brought to a project retrospective session at D. This generated curiosity and questions about patterns among the retrospective participants.

Whenever one consultant gives a presentation on patterns, a stack of books is always available, both for reference during the talk and for perusing at breaks and after the presentation. People like looking at books. At one talk, a participant said, "Some of my happiest times have been spent with books."

Seeds can take unusual forms. When donuts were leftover from a patterns presentation at W, the Dedicated Champion took them to the Tech Staff. An explanation of where of the donuts came from prompted the Tech Staff to ask questions about patterns (while they were eating the donuts).

Originator: Linda Rising

Play-by-Play Workshop

Do a writers' workshop demo with students participating and the instructor giving a running commentary.

Once students have written their own patterns, and are ready to workshop them, they need to learn how to do it.

The form (ceremony) of a writer's workshop is a strong contributor to its effectiveness. But for a neophyte, the attention required to execute the ceremony detracts from the attention on the work itself.

The writer's workshop form has evolved over time to become a highly effective means of providing authors with feedback on their patterns. It balances the need to protect the dignity of the author with the need to improve the work. This balance is achieved partly through the form of the workshop, and partly through the culture of the workshop.

The form of the workshop is set up to achieve this balance. Obviously, the order of positive comments and suggestions for improvement contribute to the balance. Other things, such as the author not being allowed to speak during the workshop, contribute to improvement of the work as well as protecting the author's dignity. This has led to a form that is rigidly enforced but not exactly simple. New people have trouble remembering all the steps in a workshop.

The culture of the workshop is as important as the form. It includes such norms as "gush" to save time, and the moderator's requests to "rephrase that comment as a suggestion for the author." Importantly, the culture dictates politeness to the author, as the commentator may well be the next author! But culture is really hard to convey in a written description; Coplien's patterns for writers' workshops capture many of the cultural nuances of writer's workshops, but you still don't get everything by simply reading them.

Experience has shown that people grasp the form of the writer's workshop pretty quickly, usually after participating in one or two workshops.

Therefore:

Execute a writer's workshop with the students participating, and an instructor giving running commentary. The instructor explains the nuances of the writer's workshop as it progresses.

If the class has two instructors, one can moderate the workshop while the other gives a running commentary. If there is but one instructor, the instructor both moderates and comments on the workshop at the same time.

What pattern should you workshop? It is possible to use one of the students' patterns, but it is better to use a pattern prepared just for this purpose. You have to be careful, though, to not make the pattern *too* good. It must be easy for the students to find both positive aspects and suggestions for improvement. Naturally, it needs to be short.

If the group is larger than ten, it is still possible to have a single sample writer's workshop for all students. It isn't critical that they all actively participate in this workshop. In fact, a variation of this pattern used at most PLoPs is to select a few experienced people as participants, and let the rest of the people observe.

It is necessary to give an overview of the writer's workshop process before doing the workshop. Jim Coplien's "A Pattern Language for Writers' Workshops" [Coplien00c] gives a description of writer's workshops as they are practiced by the software patterns community.

At the conclusion of the sample workshop, be sure to ask the students for questions they have about the process.

There are many nuances of the writer's workshops that generally are not mentioned in formal descriptions. They usually come up in the sample writer's workshop.

The sample workshop demonstrates the workshop in a way that can never be described on paper. As students participate, questions will occur to them which can be explained before they start workshopping each other's patterns.

Originator: Neil B. Harrison

Shepherded and workshopped at KoalaPLoP'0 (May 2001).

***Respected Techie**

Enlist the support of senior-level technical people who are esteemed by members of the organization.

You're an Evangelist or Dedicated Champion. You may have some Innovators who support your ideas.

How can you make inroads into the technical community? You will need both technical and managerial buy-in to be successful.

People are bombarded with new ideas and can be too busy to keep up with the latest and greatest. Fortunately, most of us have people we trust to help us through tough decision-making. Usually these trusted advisors are senior-level people who are respected by everyone. When these people get behind an idea, it's the best approval you can have.

“Reputation is a fundamental aspect of social identity; it helps people know how to interpret each other's words and actions and make decisions about who to trust.” [Kim00:109]

Therefore:

Enlist the support of experienced, senior-level technical gurus that are respected by both the technical people and management. Approach the guru with humility. You're there to learn from them, not educate them about every nuance of patterns.

Gurus usually know about certain projects. Ask them to tell you a story about the project. Have your paper and pen ready if the guru has time to talk or have your calendar handy if you need to come back later. Don't be disappointed if it takes several attempts before you can find a good time for both of you. Offer to take the guru out for coffee. On the way to the cafeteria, give your abbreviated spiel on patterns, ask for a story, and then be prepared to listen. You want to win them over by telling them about patterns (Just Enough) and giving them the opportunity to be involved in mining patterns too (Ghost Writer).

If you're new to the organization, the Innovators can help you find the gurus. It helps if you have a contact, for example, “Charlie (a high-level manager or other guru) said you know a lot about this functional area. Can you tell me about it?” The connection is not to impress the guru but to show that you are impressed that the high-level manager would recognize the guru's expertise.

These veterans can make or break you. If you can convince them that patterns are a good idea, other individuals will at least hear you out. Management, especially upper management, often depends on these well-respected individuals to provide an assessment of potential solutions. Once the Respected Techies are on your side, your battles are half over.

A Respected Techie can also help you win over a Local Leader or Corporate Angel and start you on your way to building Grass Roots.

After an initial presentation had been made to the Corporate Angel and his staff at A, each manager at the meeting was asked to name a Respected Techie to be part of an evaluation team to hear what patterns were all about and make recommendations back to the appropriate manager. The favorable outcome of this evaluation resulted in full management support, including that of the Corporate Angel, and an increased number of engineers who became part of the Grass Roots.

*A Respected Techie at **W** got other technical people talking about patterns.*

Originator: Linda Rising

***Royal Audience**

Arrange for management and members of the organization who have helped with the patterns effort to spend time with a special Big Jolt visitor.

You're an Evangelist or Dedicated Champion using Big Jolt. The visitor has a few spare hours during the day or during the evening before and/or after the day of the visit.

How can you maximize the time of a Big Jolt visitor?

You want to get the most out of a Big Jolt visit and it's better if the event is more than just a presentation to a large group.

Famous people are usually charismatic and can give your cause a boost. If management can take advantage of the time for a short, one-on-one meeting, that can lead to more support.

Therefore:

Use spare hours or lunchtime during the day or evenings before and/or after the featured presentation to make the Big Jolt visitor available for teams, individuals, or managers that have helped with the patterns effort. Dinner with a famous patterns person can be a nice reward for Innovators. The Big Jolt may also be willing to help the patterns efforts in your organization by taking some one-on-one time with managers who still need to be convinced of the value in patterns.

People who are invited to a Royal Audience will enjoy the time spent getting to know a famous person. This can be a "reward" for those who have helped with the patterns effort and a "public relations" opportunity for management who have not yet bought into the idea of patterns.

But be careful that this doesn't backfire. If anyone is upset at not being invited, that can hurt your cause.

At A, invitations to join Big Jolt visitors were sent out to everyone. Free "consulting time" was also announced on the e-Forum. Even when people were unable to attend, they always felt that the opportunity was open to them.

Originator: Linda Rising

***So What's New?**

Welcome comments such as, “This is the way I do things already,” as validations of a pattern, but show the value of the pattern to novices who don’t have the same experience base as the experts.

You are an Evangelist or Dedicated Champion trying to introduce patterns into your organization.

How do you deal with the reaction that a pattern adds no value because it is so obvious?

Patterns are “discovered not invented,” so some experienced people will be using patterns without knowing it. For them best practice is standard practice, and any given pattern might look like common sense at best or trivial at worst. On the other hand, there will be people for whom the pattern is genuinely new as a solution to a recurring problem.

There are always people for whom “old” stuff is new. Patterns are abstract and tend towards simplicity in their presentation but often the relationship between patterns in, say, a pattern language, maintains the essential complexity of the solution rather than the individual patterns.

Genuine masters of their trade, by definition, already use the best patterns BUT best practice needs to be articulated if a culture of design is to be created.

No one knows everything. Even masters can improve. In an experiment, teams of leading heart surgeons from five New England medical centers observed one another’s operating room practices and exchanged ideas about their most effective techniques. The result? A 24% drop in their overall mortality rate for coronary bypass surgery = 74 fewer deaths than predicted. These surgeons were all trained and presumably experts since they were “leading heart surgeons” but simply by observing, they were able to improve. [Davenport+98, xiv]

Therefore:

Welcome comments such as, “This is the way I do things already,” as validations of a pattern, but show the value of the pattern to novices who don’t have the experience base of the experts.

Celebrate the wisdom of the master craftsperson and focus on her as a source of further patterns.

The comments from experienced people will serve as validation of the patterns as best practice. The comments will help you identify experts as future sources of pattern mining. In some cases, you may establish a learning relationship with the master.

Use Personal Touch to illustrate the usefulness of patterns, even to experts!

The first draft of the patterns that later became ADAPTOR was delivered to a specially convened design review. The patterns had been developed in joint work with some of the company’s developers in the previous twelve months. Cannily, DS, the Design Authority, decided to invite some developers who had not been involved in case those who had worked on it were “too close” to be objective. At the end of the presentation DS asked these people what they thought. They were not very forthcoming either way, so DS turned to one of the most experienced men and asked him directly about one particular pattern. He asked whether it was recognizable as something the division did. “Yes. I recognize it. I use it a lot. But, that’s what worries me. What does it really add?” At this point a new hire, a junior, spoke up and said, “What do you

mean you use it all the time? I had this exact problem last month and it took me nearly two weeks to work out a solution. Do you mean you had the answer all the time?"

Originator: Alan O'Callaghan

***Stay Close**

Once you've enlisted managerial support, make sure they don't forget about you.

You're an Evangelist or Dedicated Champion working to introduce patterns into an organization. You've captured the interest of a Local Leader or Corporate Angel.

How can you make sure that management doesn't forget the patterns activity?

We're all bombarded with information. New ideas are always out there—more than we can handle. It's like the old saying, "Out of sight, out of mind."

Support for patterns depends on the continuing awareness of your management but their support can lapse. Since there's always something important going on and critical decisions to be made, if you don't step up and call attention to your contributions, your message will be lost.

On the other hand, you don't want to make a pest of yourself and overstay your welcome. Each manager has a different tolerance level. Some you can joke with; some you can't. Some are very interested in the latest and greatest technical innovation; others are more fearful and distrusting. Beware of hype and buzzword overload.

Therefore:

Stay in touch with your Local Leader and Corporate Angel. Keep them informed of patterns events, publications by members of the community, or upcoming visits from a Big Jolt.

Keep your messages timely and interesting, so they will be aware of patterns activity and feel that it is important. Don't overwhelm them with too much that is distracting or they will ignore you. Be sensitive to the individual tolerances of managers for new information. You can lose your support if you are viewed as a pest. Present all information in a helpful manner.

If a Big Jolt visitor is of special interest to your management supporters, you might set up a Royal Audience.

It's important to stay close to all those who support you. e-Forum and Involve Everyone can help you do this.

At A, a company-wide, electronic bulletin was sent out several times a week with important notices for everyone in the company. Everyone read this bulletin. Important patterns activities were always advertised and patterns publications mentioned. This kept patterns news in front of everyone, but especially management.

Originator: Linda Rising

***Study Groups**

Form a small group of colleagues who are interested in a specific topic as a next step for newcomers to learn about patterns or a good way for those familiar with patterns to continue learning.

You have an interesting book you'd like to read or an interesting topic you'd like to know more about but there are no resources (time or budget) for a course or tutoring.

What's an effective way to learn about patterns when there is little or no money for formal training?

When you read any book by yourself, what you get out of it is limited by your own perspective and experience. When you read a book in a group setting, you can take advantage of a variety of backgrounds and expertise.

More formal independent study has its own difficulties. The learner relies on a technical interface, videotapes or broadcast classes, and little social interaction. As a result, the learner goes through material in isolation with no chance for discussion or timely questions.

The lecture method has been described as "a way of getting material from the teacher's notes into the student's notes-without passing through the brain of either one." [Weinberg+99:1] This isn't the best learning environment, especially for adults, who want to extract useful information that can apply to their daily work.

Therefore:

Form a study group of no more than eight colleagues who are interested in a common topic. If resources are available in your organization, you might get your company to buy books or lunch. Meeting over lunch works well because it's usually a time when most people are free. Use Brown Bag. Eating together helps build good group interaction and bridges the work environment and the learning environment.

According to [Rising+98] this approach is not only fun and effective but also low cost. Even when companies buy lunch for eight participants, as well as individual copies of a book, the cost per learner for a 12-week study group is less than \$200, while internal or external training costs can run from \$800 to nearly \$2000 per learner.

The intense experience of internal or external training has been compared to drinking from a fire hose, while study groups allow a more reasonable pace. Each week a chapter or topic is covered and while each participant must have prepared, a facilitator leads the group, a role each participant plays in turn. The facilitator must spend a little more time to steer the group through the material but this is a burden that can rotate through the group. The result is maximum learning with minimal time invested.

Study Groups provide adults with a genuine educational experience, focusing on topics the learners have chosen. They allow timely, convenient scheduling and a sense of ownership of the learning path. However, they are not appropriate for all kinds of learning and will not necessarily work for every learner. Study Groups should be considered as part of the total organizational learning plan for any organization.

For more information about setting up Study Groups and one company's experience, see [Rising+98]. Also see [Kerievsky] for *Knowledge Hydrant: A Pattern Language for Study Groups*.

There are patterns discussion groups all over the country that meet regularly to cover a book on patterns.

<http://c2.com/cgi/wiki?PatternsGroups>

*Study groups were effectively used at **A** and allowed employees to learn about a variety of technical topics. Many of these are described in [Rising+98].*

*Individuals at **G** went through two days of patterns training and then formed a study group to continue their learning. They chose to go through the GoF patterns first.*

Originator: Linda Rising

***Treasure**

Give those who support patterns something of value.

You are a Dedicated Champion trying to introduce pattern in your organization.

How can you strengthen the impact that the new topic has on an individual and reward those who are your supporters?

People who buy in to a topic still need to have something to hold onto. “Things” are important! You attach significance to objects of value that are given to you sometimes because of who gives it to you and the circumstances under which you received it.

Treasures go beyond just identification with a group, they signify achievement or a level of commitment, like the badges that scouts receive for exhibiting learned skills or attaining predetermined goals.

Therefore:

Give something of value to those who support the topic. Examples include books, shirts, opportunities to publish, special recognition for their contribution. Expensive items are not necessarily Treasures. The recipient has to attach value to the item and associate it with the topic.

If the item is a Treasure, the receiver will maintain it in an appropriate manner. This does not always mean it will be displayed, since it might too important to keep out where everyone has access to it. However it is maintained, the receiver will have a strong association between the item and the topic it represents. This connection is what causes the object to magnify the association with the topic.

There is a fine line here between maintaining a certain amount of exclusiveness in owning a Treasure, and being too exclusive. If there are too many treasures, they may become Trinkets. Too few and they create an atmosphere of exclusion. Anyone should be able to obtain a treasure if they meet the qualifications.

Pattern books were Treasures at A. Some people saw more value in the books than others. Some even returned books. They saw the value in the book but didn't identify strongly with the topic and wanted someone else to have the book.

Originator: David E. DeLano

Trinket

When doing a presentation on patterns, give attendees a token that can be identified with the topic being introduced.

You are an Evangelist or Dedicated Champion holding introductory sessions for people interested in patterns. You may be hosting an outside guest, who is doing the actual presentation.

After the presentation, participants often forget about the topic. How can you sustain the impact on the attendees?

People may be enthusiastic about a topic when presented, but the enthusiasm quickly wanes. Our brains can only hold so much; today's information will be quickly replaced by tomorrow's information. However, something special will help call attention to a particular topic. Reminders of the event can help retain information and can connect the topic with a group of people, for example, the patterns community.

Therefore:

Give attendees a token that can be identified with the topic being introduced. The monetary value of this Trinket need not be high—it doesn't need to be a Treasure. Keep the Trinkets consistent over time and don't devalue the identity of the trinket by giving them out to people who didn't attend the presentation.

Examples of trinkets are magnets, buttons, coasters, cups, pencils, or a set of bound notes, a “quick reference” printed on special paper, or copies of patterns or articles. Don't just give more URLs. Some creative insight is needed to come up with Trinkets that are useful for forming a linking identity, and to jog the memory of the event.

When people know you have purchased these Trinkets or made the copies of the special references, both your colleagues and your management will be impressed that you believe in your idea enough to support it. A copy of an article or a pattern doesn't take a lot of effort but it shows the attendees that you cared enough to spend a little of your time to make their lives easier.

It is important that any group maintain an identity in order to survive. The Trinket helps maintain this identity. It identifies the owner as part of the group to the outside world, and reminds the owner that they are part of the group. This is much the same as a uniform identifies a person as part of a group. However, just as the uniform doesn't make the person, having the Trinket does not guarantee that the owner supports the topic.

People who identify with the topic will keep their Trinket, often prominently displayed, as a symbol of their support of the topic. Initially, this identifies the group of people to each other, helping to create a critical mass. Over time, the Trinkets serve as a constant reminder to re-visit the topic.

However, we all know what it's like to have another toy that just clutters up our space. Don't be disappointed if some people dispose of the Trinket—not everyone will appreciate them, and those who don't “get” the topic will be less inclined to keep the them around. They will get cleaned out over time, and this is okay.

The distribution of too many Trinkets reduces their effect. Therefore, don't get carried away.

Do Food and Brown Bag draw people to a meeting. Trinket creates a lasting memory of the meeting.

Several trinkets have been used over the life of patterns introduction at A. Writers Workshop reference cards were given to an even more select group of people who attended Writers Workshop classes.

Both of the authors of this book collect the name badges from conferences they attend and hang them on the wall of my cubicle. They remind them of the conferences they have been able to attend, the many friends they have met at the conferences, and the things they have learned. They are not Treasures because they aren't worth anything. So they're not afraid that someone will take them in the middle of the night.

Any good salesman knows the value of giving away Trinkets. Even after a sale is made, a Trinket is invaluable for maintaining a good customer relationship and often result in more sales.

Attendees at a PLoP conference usually take a tangle of yarn home with them.

One consultant has a foldable card that he gives out at his training sessions. He says that there is not only benefit for the receiver of the trinket, but also to the giver. The consultant feels that he gives a bit of himself away with the card.

Originator: David E. DeLano

Workshopped at the OOPSLA'00 "Introducing Patterns into Organizations" workshop (October 2000).

Workshop as Teacher

Have students do writers' workshops on their patterns.

The students have written their first patterns. Obviously, they still have a lot to learn about patterns.

After writing their first patterns, students need individual feedback about what they have written. Otherwise, the writing experience will have only limited educational value.

The first pattern that anybody writes is usually not very good. Pattern writing is hard, and takes not only practice, but regular correction and feedback. It is important to get the students off on the right foot.

But in a class setting, it is impossible for the instructor to individually critique each student's work. It takes too much time. If the teacher were able to take the patterns home and review them overnight, that would be an improvement, but the feedback really needs to be in person when the pattern writer is this new at it. Alternatively, general feedback to the entire group can be no more than superficial.

A student needs to do more than write a single pattern. They need to look at other patterns. Furthermore, they need guidance on what to look for; what are good characteristics of patterns, and what aren't.

Students can learn from each other.

This is similar to music instruction. A student may practice, but needs regular feedback from a master. Periodic master classes, where students listen to and critique each other are also invaluable.

Therefore:

Have the students do writer's workshops on each other's patterns.

Of course, the instructor guides these writer's workshops actively. The instructor should teach the form of the workshop, and keep them going. The instructor also participates in the workshop, and shows by example what kind of comments to make. This teaches the students not only about how to participate in writer's workshops, but also what to look for in patterns.

Typically, the students will workshop as many as ten papers, as they workshop each other's patterns. At first, the instructor will pretty much have to lead the group by the hand, but very soon, the students may even take turns at moderating sessions. (See Master and Apprentices in [Alexander+77].)

It is important to keep the group in any workshop to seven to ten people. Otherwise, students will not have sufficient opportunity to participate. This is true of non-student writer's workshops as well. If the class is too large, it should be split into two or more workshop groups. It is important that there be at least one instructor for each workshop group.

The obvious result of teaching writer's workshops is that the students learn how to conduct them. But the non-obvious benefits are even greater. By examining each other's patterns, the students learn more about patterns themselves. They see things that work and don't work. And they are not left to themselves; they do it all under the watchful eye of the instructor.

Another important by-product of the workshops in a patterns course is that they introduce students to many of the important aspects of the patterns culture. Furthermore, the students are not just hearing about the culture, they are in fact, living it for a short time.

The biggest problem with this is that nearly all the students will be new to writer's workshops. Use Play-by-

Play Workshop to teach them writer's workshops.

Originator: Neil B. Harrison

Shepherded and workshopped at KoalaPLoP'01 (May 2001).

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