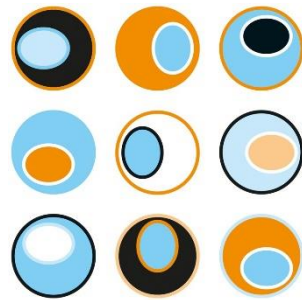


Educating for creativity and innovation

*A report on the benefits
and good practice*



perspectiv

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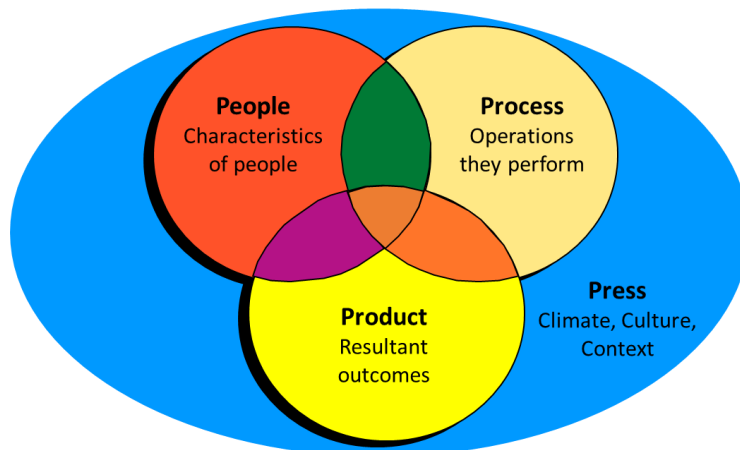
What is our approach to creativity and innovation?

Ask any person, team, or organisation if they would like to be more creative or innovative and the answer is almost always 'yes'. Creativity and innovation are important to people and the growth of organisations.

The [McKinsey Triple Growth Play report](#) shows that those who master creativity, analytics, and purpose are delivering 2.3 times more success than their peers. But with so many myths, doubts and uncertainties about creativity and innovation that cause inertia, what are the key aspects that need to be addressed?

Whilst there is no perfect recipe, there is a recognised and widely used body of knowledge that points the way. This framework has emerged over 60+ years of research, development, and practical experience. The system is known as the 4Ps of creativity that integrates the repeatable, explicit, and deliberate consideration of:

The 4Ps of Creativity & Innovation



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People – the characteristics of people at the heart of the system.

Press – the physical and psychological environments that 'press' on us.

Process – the structures, operations, and guidelines that help and hinder

Product – the needs and resultant outcomes that are required and which include (but are not limited to) new products and services.

The key to making innovation sustainable is to ensure all four areas are addressed.

Typically, many people, teams, and organisations attend to the two 'hard' aspects of product and process – indeed the media is full of 'recipes' propounding a 'new' process. But the two 'soft' aspects of people and press are often passed over as too complex and all but ignored.

However, the research is clear, any approach that does not integrate all four areas is likely to achieve limited results. The potential for sustainable creativity and innovation comes from product + process + people + press.

If you have ever wondered what it is that separates the best from the rest at innovation; or if you have ever been asked to increase creativity and innovation – personally, in a team, or an organisation; or if you have any messy, seemingly insurmountable 'wicked' challenges on your radar, the 4Ps provides:

- A framework for **understanding**
- An accessible and inclusive approach to **developing capabilities**
- A sustainable way for **getting results**.

Executive summary

This report is about creativity and innovation training and education. It focuses on reported benefits and provides practical insights about how to increase the success of creativity and innovation training and education programmes inside organisations.

Two key messages

1. Good quality creativity and innovation training is worth the investment.

- Bottom line measures such as costs, sales growth, and ultimately total shareholder returns can be positively affected – *e.g. £31.6 million of extra margin generated over four years in a Customer Service business.*
- The creative thinking ability of individuals can be significantly stimulated and nourished – *e.g. 70% of participants scored their personal gain from training as ‘considerable’ or ‘a great deal’.*
- Trained facilitators can greatly enhance the performance of groups – *e.g. nearly 1.5 times the outputs over a non-facilitated group.*
- The interpersonal climate is much improved when using learned tools and methods – *e.g. more than double the positive behaviours.*
- Meetings of all kinds are much more effective (saved time, more involvement, and better quality) – *e.g. 39% of people stated a major improvement.*

“A major contribution to our success over the last four years has been due to the way we have managed creativity, innovation and change through our investment in education and training in these areas.”

– Managing Director, IT Company.

2. Making creativity and innovation training work in organisations requires the means, motive, and the opportunity to use learned skills.

- **Means** – ensuring people are *able* to do – by offering a professional, high quality and rigorous education programme in creativity tools, processes and thinking to create innovation and crucially to also provide appropriate programmes for managers to be able to digest and lead innovation.
- **Motive** – helping people to be *willing* to do – by developing an environment that supports the safe use of learned skills and encourages new ways of thinking and working.
- **Opportunity** – supporting people in being *allowed* to do – by creating opportunities for the refinement and application of skills in order to get the bottom-line return on the investment in innovation training.

“If new ways are to be harnessed and new practices embedded, not only must people have the requisite skills, knowledge and abilities, they must also have the motivation to try out what they have learned, make adjustments and continue learning, and they must have the opportunity to apply their new talents to real, challenging, meaningful tasks in the work environment.”

– Head of Center for Innovation and Creativity, Chemical Company.

Introduction

It's probably fair to say that today, in every industry, it's absolutely vital to be a highly effective innovator. Widespread recognition of this has made *educating for creativity and innovation* a hot topic.

- PriceWaterhouseCoopers' Innovation and Growth Surveyⁱ confirmed the links between innovation and growth and its impact on total shareholder returns. It found that, in the most innovative companies, shareholder returns are more than 37% above the average.
- Business gurus such as Gary Hamel and Peter Drucker have said that 'Innovation is the only critical competency for success'.
- The McKinsey Triple Growth Play report shows that those who master creativity, analytics, and purpose are delivering 2.3 times more success than their peers.
- Educating for innovation has been identified as a priority by those at the highest levels in the European Commission and the UK Government. The National Advisory Committee on Creative and Cultural Education (NAACCCE) has recommended that training in creative problem solving be included in formal education.
- The Engineering Science Research Council (ESRC) programme on innovation confirmed that most boards and CEOs are committed to innovation. Many have even named innovation as a strategic priority.

Goals of this report

The recognition of the importance of innovation has led to a growth in the number of trainers, consultants and writers in the field. There are now many approaches and an ever-growing number of providers, which means that buyers are now faced with considerable choice.

To try and illuminate the area, we have written this report for those who:

- want more creativity and innovation in their organisation
- sponsor, buy, and recommend programmes of training in creativity and innovation
- have people who work for them attending a programme
- are going on or have recently attended a course.

We have focused on three themes:

Section 1: What are some of the reported benefits of creativity and innovation training?

Part 1 reports the results of a major impact study carried out in a large IT company and Part 2 of this section looks at some of the classic studies into the benefits of creativity and innovation training.

Section 2: How can the benefits of training be measured?

This section takes a look at the mostly widely used approach to measuring the impact of training.

Section 3: How can the success of educating for creativity and innovation be increased?

This section seeks to explain how to translate investment in training into embedded practice and offers guidelines for choosing a supplier of creativity and innovation capability building.

Section 1, Part 1: An impact study in an IT company

Introduction

The Learning and Development (L&D) Manager of the UK and Eire subsidiary of a \$5 billion IT company wanted to understand the impact of 4 years of training investment in creativity and innovation – specifically a series of courses in Creative Problem Solving v6 and Facilitative Leadership.

During this period the company had invested approximately \$500,000 in direct costs associated with the programme in four levels of training:

- An introduction to creativity and innovation that anyone and everyone in the company was able to access and attend (the company comprised approximately 3,000 employees in this subsidiary)
- A foundational tools and process course that 250 people attended
- A facilitative leadership course that 40 people attended
- A train-the-trainer programme that six people attended.

In explaining the strategy for the investment in the first place, the company's director of Human Resources commented:

“Our vision was to provide people with transferable skills in the area of creativity and problem solving for two reasons. First, our approach to employees is that we can't guarantee employment, but we will try to ensure employability through skills development. Second, our strategy was to diversify and re-invent the company in order to grow in the increasingly turbulent times. We needed to skill our people to handle change. Creativity and innovation training has been at the heart of our approach to achieve this.”

Over the four years, the CPS programmes have consistently rated highly from course feedback – scoring on average 4.6 out of 5. However, the initial rush of enthusiasm of running the courses was starting to wane. New people in senior management positions were asking questions about the value and the company needed to obtain hard evidence of the impact of the investment.

Impact Study Structure

The impact study that was commissioned had the goals of identifying:

- Bottom-line impact
- Behavioural impact
- What was working and what needed improving.

Interviews were conducted with senior managers who owned the problem spaces for which CPS and facilitative leadership had been applied, the trained trainers who were also advanced facilitators, trained facilitators, participants of the foundational programme, and the L&D Manager.

The interviews were structured around the following questions:

1. Where had CPS been applied?
2. What have been some of the positive outcomes and results?
3. What is working well
4. What needs changing for the future?

The interviews were analysed, and the results were published in a 56-page report and executive summary.

Results of the study

There was considerable evidence to indicate that the investment had been repaid many times over and the following results are illustrations of the kind of impact that the investment in CPS training had on this company's business.

Bottom-line impact

The first is in the words of the Managing Director of the Customer Services Division:

“In Customer Services, the CPS method and tools were a major contributor for meeting and exceeding margin goals of £25 million despite decreasing revenue from traditional sources. Additionally, the traditional business accounted for 85% of revenue, and now it is only 50%. CPS provided the ways to earn approximately £31.6 million of additional margin over the four years.”

The second is from the Sales Director from of the Systems Integration division:

“Within our division, Creative Problem Solving helped create a new business unit which yielded about £10 million in new revenues in the first year and about £20 million last year. This new business initiative was also accepted by head office for worldwide application.”

Behavioural impact

The majority of applications of CPS were inside the organisation – which was the original purpose of the training. The following tables provide a perspective on how people were using CPS as well as the benefits people had experienced in using the CPS tools and processes in various situations.

It is particularly worth noting that some of the people who had developed their competence, confidence, and commitment to CPS beyond the foundation level were also using their CPS skills with external clients and some of these applications were fees based.

Applications with clients that did not involve fees were reported by about one third of respondents and were for areas such as improving client meetings or to review proposals and strategies, and to help produce winning bids, and account plans.

Just over 1 in 10 participants reported using CPS directly to provide services to clients for fees.

Please indicate whether you have used CPS in any of the following areas:					
To solve internal business problems	To develop a strategy or plan for an internal team	To plan sales activity	To plan implementation or support activity	To help customers solve problems at no charge	To help customers solve problems for a fee
71%	64%	32%	26%	32%	13%

Please rate the impact that the CPS training has had for you in the following areas:					
Area of impact	No impact %	A little improvement %	Moderate improvement %	Major improvement %	Complete transformation %
Ability to analyse and solve business problems	3	19	29	45	3
Ability to run meetings more effectively	16	13	32	39	0
Sense of accomplishment at work	10	20	32	35	0
Experience of teamwork and relationships with colleagues	13	13	32	39	0
Overall productivity	13	32	39	13	0

The evidence from this table suggests a very positive overall change. All five areas explored scored moderate or major improvement from over 50% of respondents.

What was working well and what needed improving?

As well as understanding the how and where of behavioural impact, the report also aimed to find out what was working well and what needed improving from the perspectives of the various groups interviewed. The following is a summary of the themes by group.

	Working well	Needs improving
Clients	<ul style="list-style-type: none"> Positive influence on the bottom line Benefits to team performance Achieved results in a short time 	<ul style="list-style-type: none"> How to raise the awareness of impact How to access the process and facilitators How to get more management support
Advanced Facilitators & Trainers	<ul style="list-style-type: none"> Naturalness of the CPS framework Increases confidence Can be used in many situations Produces practical results 	<ul style="list-style-type: none"> How to relate CPS to business How to create more time for CPS How to compile more resources How to develop the culture
Facilitators	<ul style="list-style-type: none"> Confident application of tools Quality resources Positive focused thinking 	<ul style="list-style-type: none"> How to integrate more into daily work How to increase managerial commitment How to increase client quality
Basic Course Attendees	<ul style="list-style-type: none"> Understanding problem solving Simple but powerful tools Personal growth Progressive corporate thinking 	<ul style="list-style-type: none"> How to incorporate more widely How to overcome myths about CPS How to get more training and train others How to increase confidence further

Key Recommendations

The final part of the report synthesised all the findings into a key recommendation – the need to develop the capabilities of senior management even further in order to embed a culture of creativity and innovation.

“When the results of using CPS were studied, it was clear that there was a high level of impact. However, CPS was only being used in a few business areas and the best results came when there was good support from senior management.

As a result of these insights, we recommend that the senior management team and their direct reports may wish to explore developing their skills and knowledge even further to be better able to lead and manage creative change. This would afford key decision makers with the opportunity to perform more effectively as change sponsors, and better utilise those who have been trained in CPS tools and facilitative leadership throughout the organisation.”

As one of the senior managers said: *“This is a real good story, I’m so proud of this story I will leap about!”* Others saw creativity and innovation facilitative leaders as ‘tooth fairies’ who could sprinkle ‘magic dust’ on projects and business areas without having to do much themselves. When this occurred, the returns were much lower.

Overall, the programme was seen by many – although not all – as a success. The company’s Managing Director commented:

“I believe, indeed now I know from our impact studies, that a major contribution to our success over the last four years has been due to the way we have managed creativity, innovation and change through our investment in education and training in these areas.”

Section 1, Part 2: The ‘classic’ studies.

Creativity and innovation training has a positive effect on behaviour.

In 1969, the State University of New York (the first university where a Masters in Creativity could be obtained) launched the Creative Studies Projectⁱⁱ. The project aimed to evaluate the impact of a creative problem-solving course on various aspects of college students’ behaviour – in class, in college, in personal life, and in the community at large.

The course concentrated on **awareness development**, **creative problem solving**, and **general semantics processes** (the discipline to improve the ways people interact with their environment and with one another especially through training in the critical use of words and other symbols).

An impressive picture emerged from the 200 research measurements made on the experimental students over the two-year period, and the comparable controls not taking the course. There was strong evidence of a significant difference between the experiment subjects and the controls.

Students were also given 12 areas of possible gain from the course (see below) and asked to indicate their gain on a five-point scale from “not at all” to “a great deal”. The figures represent the percentage of participants who scored either a 4 or 5.

Perceived Gains as a Result of Creativity Training	
Idea Finding – 84%	Observation skills – 72%
Putting to use – 84%	Problem awareness – 71%
Problem defining – 81%	Increased mental effort – 71%
Divergent thinking – 81%	Increased confidence – 58%
Openness – 78%	Curiosity – 52%
Convergent thinking – 74%	Increased team participation – 48%

On average, over 70% of participants scored considerable or higher gain across all the areas.

Creativity training improves the workplace climate.

In the late 1980s a study by Firesteinⁱⁱⁱ examined the effects of creativity training on communication behaviour in groups.

He found significant differences between trained and untrained groups in how the people interacted during group activity. It also found that trained groups outperformed untrained groups in both quantity and quality of ideas generated in response to a real business problem.

However, the most interesting aspect of the study was to show the link between creativity training and changes in the climate – see table below. (Climate refers to recurring patterns of behaviour that either help or hinder creativity and innovation.)

The Effects of Creativity Training on Interpersonal Behaviour in Groups			
Behaviour	Untrained Group	Trained Group	% Change
Verbal criticisms	2.20	0.9	-244%
Verbal support	1.40	3.70	+264%
Laughter	2.10	6.00	+285%
Smiles	2.60	6.70	+258%
Ideas generated	13.00	27.00	+208%

The research showed a greater than double increase in the behaviour patterns that were being observed and which go towards producing a healthy climate. Not surprisingly, the quantity and quality of the ideas generated by the trained group were also superior because they had learned and were using the skills and tools of creativity.

Trained facilitators improve performance.

This study^{iv} set out to establish what effect facilitators would have on the performance of groups using Brainstorming in five different conditions:

- Some brainstormed alone (Nominal Control)
- Some in groups without a facilitator (Interactive Control)
- Some led by an untrained facilitator
- Some led by a trained facilitator
- Some led by a highly trained facilitator

The results in the table show that:

- the Highly Trained Facilitator Group generated as many ideas as Nominal Group members and more ideas than the other groups
- during the last five minutes of the session the Highly Trained Facilitated Group members outperformed even Nominal Group members
- compared to the Interactive Control group, the Highly Trained Facilitated Group increased performance from 67.20 to 107.20 – a 1.5 times improvement.

The Effects of Facilitators on the Performance of Brainstorming Groups					
Condition	Mean number of ideas generated for each five-minute period				
	Time interval				
	5 min	10 min	15 min	20 min	Total
Highly Trained Facilitator	25.70	32.50	21.60	27.40	107.20
Trained Facilitator	23.33	21.00	20.78	16.56	81.67
Student Facilitator	22.78	18.22	19.33	15.11	75.44
Interactive Control	25.70	13.70	14.20	13.60	67.20
Nominal Control	43.20	31.90	24.60	15.70	115.40

One of the frequently asked questions about this study and the use of Brainstorming is this: “Are facilitated groups using Brainstorming worthwhile because the Nominal Control Group generated more ideas than the Highly Trained Facilitated Group?” There are two key responses to this question:

When Osborn invented Brainstorming, his guidelines for its use stated that it should be used in addition to individual ideation. This means that participants invited to creativity session were encouraged to generate ideas on their own before coming to the meeting. These ideas would then be shared with the group at the start of the meeting. This is seldom reflected in much of the recent ‘research’.

We also know from previous studies that using a group has ‘costs’ and ‘benefits’. The ‘costs’ associated with a group include the obvious ones of getting the people together in one place, but there are also hidden costs such as increased inhibition from social factors such as evaluation apprehension, free riding (not contributing because members do not believe their contribution is worthwhile), and blocking (having to wait or getting interruptions).

What this study shows is the increased benefit of using a highly trained facilitator with groups. Such groups can achieve the productivity of individual ideation without sacrificing the benefits of interaction – such as group cohesiveness, shared communication and inclusion.

The decline in performance of the nominal control group did not occur with a highly trained facilitator. In the study, group members generated as many ideas during the last five minutes of the session as they did in the first five minutes. This suggests that if the session were longer, the Highly Trained Facilitator conditions might have generated considerably more ideas.

Many brainstorming meetings are not executed the way that the inventor, Alex Osborn, described^v. One of the key aspects that Osborn described for group Brainstorming – and one that is often lacking – is the use of a trained facilitator who had taken at least one formal course in creative problem solving and who is also able to:

- ask stimulating questions
- develop plans for guiding the generation of ideas
- provide warm up practice and orientation for the participants
- teach and reinforce the guidelines for divergent AND convergent thinking
- manage the planning and scheduling of follow-up sessions and meetings

The results of this study indicate that if an organisation wants to increase creativity and innovation – they need to invest some resources in the training of facilitative leadership.

Section 2: How can the benefits of training be measured?

We already know from years of performance improvement research that good training separates stellar companies from merely successful companies and more recent research on [Deliberately Developmental Organizations](#) shows that staggering results: increased profitability, improved employee retention, better communication, reductions in employee downtime, less interdepartmental strife, and faster solutions to tough problems, such as how to anticipate crises, create valuable leadership, and realize future possibilities — to name a few.

However, it is not an easy task to assess the results of training courses in the field of creativity and innovation, or in any other area. Nonetheless, it can be worth making the effort, and over the last 5 decades, the world has learned a great deal about the transfer of learning from classrooms and online programs to the workplace.

One of the main insights concerns the organisation’s basic approach to training and development. Organisations tend to go about training in two ways^{vi}: training for activity and training for impact

Training for activity begins with a symptom or a request for training. The HR department responds to the request and then sets about designing a course or purchasing a programme. The training is evaluated through the use of an end of course critique in which trainees are asked to evaluate the course in terms of its pace, most and least helpful aspects, competence of instructors, quality of training materials and standard of facilities.

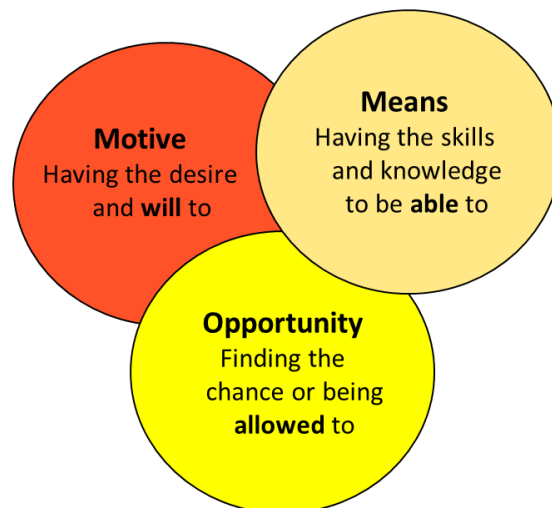
Organisations that opt for training for activity tend to display a lack of identified management ownership for results, little alignment of training programmes with business imperatives, and little accountability for the design and delivery of the programme or for its results.

Training for impact has been defined as result-oriented training that is driven by the purpose.

It is designed to help the organisation achieve its goals and higher aims. It provides people with the skills and knowledge to improve their performance AND it has management accepting the responsibility for creating and sustaining a supportive work environment that encourages skills transfer and development.

The DuPont Center for Creativity and Innovation developed and used the following approach^{vii}. If new skills are to be harnessed and new practices embedded, not only must people have the requisite skills, knowledge and abilities (the means), they must also have the motivation to try out what they have learned, make adjustments and continue learning (the motive), and they must have the opportunity to apply their new talents to real, challenging, meaningful tasks in the work environment (the opportunity).

Training & development for impact



- **Education (the means)**
Teaching people the basic concepts of creativity and innovation, demonstrating specific tools for creative thinking and moving beyond Brainstorming.
- **Application (the opportunity)**
Practising on the job – where creativity really happens. Problems are found, ideas generated, and action plans formulated and implemented. Importantly, the role of leadership in supporting the application is also developed.
- **Environment (the motive)**
Nurturing a climate that motivates and encourages people is a critical part of creativity. For more on developing a healthy climate, see Section 3.

When training for impact, the measurement of results is important, gauging the value of the investments and discovering if, and how, skills and knowledge are being used. The Kirkpatrick^{viii} approach is the one used in the IT Company Impact Study in Section 1, Part 1.

- **Level 1: Reaction evaluation**
This is an end-of-course assessment of the training programme in which participants complete an evaluation form.
- **Level 2: Learning evaluation**
This is a during-the-course assessment of the extent to which participants acquire knowledge, develop skills and translate these skills into new behaviour. Tests can be administered to assess whether participants have learned what was intended, and desired changes in behaviour can be observed.
- **Level 3: Behaviour evaluation**
This is a post-course evaluation. When people return to the workplace, their behaviour is observed, reported or tested to assess whether the new skills have been tried out and used in real life.
- **Level 4: Bottom-line evaluation**
This is an evaluation of the impact the new skills have had on business performance. Key performance indicators such as sales, profit and customer satisfaction provide evidence of return on investment in training and development programmes.

Levels 1 and 2 can be designed into the course, and professional training providers should be able to provide assessment instruments to meet the needs of the client organisation and the participants.

Levels 3 and 4 need to be organised as discrete studies at a suitable time after the completion of the programme. For example, the IT company mentioned in Section 1 of the report carried out its Levels 3 and 4 impact study four years after the start of the programme.

Section 3: How can the success of educating for creativity and innovation be increased?

The evidence shows that creativity and innovation training can offer a number of benefits to individuals and the organisations in which they work.

But what will it take to ensure creativity and innovation training thrives? The key is to adopt training for impact – understand the needs and purpose of the business and then develop the means, the motive and the opportunity.

- **Means – ensuring people are *able* to do**
Offer a professional, high quality, and rigorous training and education programme in creativity and innovation.
- **Motive – helping people to be *willing* to do**
Develop a productive environment that supports the safe use of learned skills and encourages new ways of thinking and working.
- **Opportunity – supporting people in being *allowed* to do**
Create opportunities for further development and application of knowledge and skills in order to get the bottom-line return on the investment in innovation training and development.

The means: Offer a professional, high quality, and rigorous education programme in creativity and innovation.

We recommend using a set of professionally developed guidelines for assessing training providers in order to ensure you take a look underneath the models and the jargon to see what is really going to be learned and applied. For example, those provided by the Center for Creative Learning are a useful guide to the purchase of programmes. CCL's set of 15 criteria^x are summarised below.

1. **Theoretical foundation** – To what degree is the programme based on a specific model or framework?
2. **Trainers' training** – To what degree have the trainers been trained?
3. **Individual learning differences** – To what degree does the course support varied learning styles?
4. **Course relevance** – To what degree is the programme relevant to the business needs?
5. **Instructional design** – To what degree has the programme been designed in accord with the basic principles of course planning?
6. **Materials organisation** – To what degree have the materials been clearly organised to meet the needs of participants?
7. **Scope and sequence** – To what degree the programme presents specific learning outcomes in a planned, sequenced, and rational way?
8. **Social and cultural differences** – To what degree does the programme reflect the diverse nature of people?
9. **Thinking skills** – To what degree does the programme support and address important thinking skills?

10. **Examples in action** – To what degree the course includes opportunities to observe the modelling of appropriate use of skills, tools, and methods.
11. **Participant interests** – To what degree does the programme use situations and tasks that are relevant to the interests and activities of the participants?
12. **Experiential learning** – To what degree does the programme and trainer use the principles of experiential learning?
13. **Appropriate assessment** – To what degree does the course provide for a variety of participant assessments?
14. **Research and evaluation** – To what degree the programme is supported by research that supports its effectiveness or impact over time?
15. **Format flexibility and appearance** – To what degree are the programme materials customisable, attractive, and inviting to participants and the organisation?

The motive: Develop a productive environment that supports and encourages the safe use of learned skills.

Organisations that want to be more creative and innovative need to ensure that there is an appropriate climate to support the transfer of learning into the workplace.

Whilst climate is a critical aspect of the innovative organisation^x, it is unfortunately also one that leaders often neglect because exposed imperfections could be viewed as a failure of their leadership.

Just as the weather can be dark and overcast or sunny and bright, so can the climate in the organisation. If a climate of mistrust, fear of failure and conformity prevails, the innovation training will fail to deliver the expected results.

Many leaders believe that sending employees on a training course to be more innovative is enough. However, whilst many trainers and courses create a safe environment that enables students to take risks, try new things out, let them acknowledge what they don't know, and allow them to fail – this is often not continued into the workplace.

In short, the climate in the workplace can encourage people to apply what they have learned, or it can stifle it and inhibit it. Research^{xi} has shown that nine factors make up the climate for creativity and innovation. These are:

1. **Challenge and involvement** – The degree to which members of the organisation are involved in its daily operations and long-term goals.
2. **Freedom** – The independence in behaviour exerted by the people in the organisation.
3. **Trust and openness** – The emotional safety in relationships.
4. **Idea time** – The amount of time people can use (and do use) for elaborating new ideas.
5. **Playfulness and humour** – The spontaneity and ease displayed within the workplace.
6. **Lack of conflicts** – The absence of personal and emotional tensions (in contrast to idea tensions in the debates dimension) in the organisation.
7. **Idea support** – The ways new ideas are treated.

8. **Debates** – The occurrence of encounters and disagreements between viewpoints, ideas, differing experiences and knowledge.
9. **Risk taking** – The tolerance of uncertainty and ambiguity exposed in the workplace.

The climate for innovation is one of the core capabilities an organisation needs to manage and develop in order for change and learning to flourish.

More information on the climate for innovation can be obtained from us. This includes information on the [Situational Outlook Questionnaire](#), a reliable and valid tool designed to help assess the climate for innovation in organisations and contrast it with the climates for highly **innovative**, **average**, and **stagnant** organisations.

The opportunity: Create opportunities for further development and application of the investment in order to get the bottom-line return on the investment.

It is not until people apply the skills they have learned that organisations get a return on their investment in training and development. And because courses only simulate reality, even if the course uses real examples, it is in the workplace that people really get to try out, use and enhance what they have learned.

In addition to the importance of management in creating a positive climate, managers need to help individuals find and create opportunities to apply new learnings. The volume of research, books, and articles propounding a more nuanced role of management in this direction of creating the conditions for people to flourish is deafening if one cares to notice it. Some of the works include:

1. The most consistent theme from the World's Most Admired Companies research over the last 15 years has been that *they create conditions for people to flourish. Indeed, they go to great lengths to create the right conditions for people to thrive.*
2. The book *Collective Genius* by Linda Hill and others suggest *'Creative leaders see their role not as managers, visionaries, directors, strategists, or implementers but as the creators of a context in which everyone is willing and able to continually execute AND change at the same time including themselves.'*
3. The book *Leadership is Language* by David Marquet states *"We replace a language of 'prove and perform' with a language of 'improve and learn'."*
4. Amy Edmondson in her work *The Competitive Imperative of Learning* writes that *"Today's central managerial challenge is to inspire and enable knowledge workers to solve, day in and day out, problems that cannot be anticipated."* This is achieved by balancing a mindset of **execution not only as efficiency** but also **execution as learning**.
5. And Scott Isaksen writes in the *Handbook of Research on Leadership and Creativity*, *"Leaders play a crucial role in creating the work environment that either facilitates or inhibits creativity and innovation – critical factors for organizational performance and growth. In fact, some research has indicated that the most important thing leaders can do is create the context for creativity and innovation to flourish. It is time to get serious about this responsibility."*

The Framework for Productive Thinking Instruction^{xiii} provides a model to help guide the learning and application of creativity and innovation skills. Creativity and innovation is taught from the age of five to adults and it has been found that it is important for people (of any age and in any setting) to have the opportunity to progress in each area in order to learn and practice. The model has three areas:

- **Foundations** – includes learning basic thinking tools. This includes rich, well organised and accessible information and knowledge; and tools for generating/diverging and tools for focusing/converging. The major goal at this point is to increase competence.
- **Realistic Tasks** – includes linking tools together and using them along a process typically experienced on a ‘realistic’ task. The major goal is to increase confidence and to continue building competence.
- **Real Application** – no one learns creativity and innovation skills and knowledge simply as an academic exercise. The reason most people learn is to increase their abilities for situations that are important in their life. The major aim is to not only build on the competence and confidence but to also really build commitment to action, carrying out their plans and decisions and assuming responsibility for the consequences.

Having the opportunity to be creative is about being aware of situations where it can be applied, being ready to apply creativity and deal with the obstacles and being prepared to cope with the pressures.

Using the means-motive-opportunity framework

The framework can provide useful insights for organisations aiming to support a creativity and innovation training programme. All three components are required for creativity to occur. Absence of one or more means the absence of creativity.

Training courses will help people acquire the means and will to a degree help people acquire or reawaken their motive. The training will also help participants become more aware of the opportunities – the last part of many courses is often about organisational re-entry.

The following adapted table^{xiii} summarises the preconditions required to realise the potential offered by training:

Preconditions Required to Realise Creativity and Innovation			
	Means	Motive	Opportunity
The precondition is characterised by...	Skills and knowledge of the relevant domain and creativity	A desire to be creative and to go beyond previous solutions	Awareness of opportunities and having the time and space
In the absence of the precondition, one needs...	Training, direction, guidance, support, and experience	Encouragement to assist in the improvement of self-belief	Ways of coping with frustration, power and the skill to use it

From our work with organisations, the aspect that is most commonly missing is that of opportunity and often results in frustration. The responsibility for doing something about this lies with both the participant, their direct manager, and the organisation’s senior management.

The organisation is essentially the source of opportunities for change. Participants need to use their social skills to tap the power of others or obtain it for themselves in order to create and defend opportunities. Managers need to not only get the best out of their employees but also try to get the best for them and judicious use of their own power can provide a major source of opportunities.

Contact information

If you would like to know more about:

- how we develop creativity and innovation capabilities
- or how we develop the leadership skills necessary for innovation and change to flourish

Please contact us.

www.perspectiv.co.uk

References

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- ⁱ PriceWaterhouseCoopers. Innovation and Growth Survey.
- ⁱⁱ Parnes & Noller, *Frontiers of Creativity Research*; Chapter 7, *The Creative Studies Project*.
- ⁱⁱⁱ Firestein, Effects of creative problem solving training on communication behaviour in small groups. *Small Group Research* 21 (4), pp. 507-521.
- ^{iv} Oxley, Dzindolet and Paulus. The Effects of Facilitators on the Performance of Brainstorming Groups. *Journal of Social Behaviour and Personality*. 11 (4), pp. 633-646.
- ^v Isaksen, A Review of Brainstorming Research.
- ^{vi} Robinson & Robinson. *Training for impact: How to link business needs and measure the results*.
- ^{vii} Prather & Gundry. *Blueprints for Innovation*.
- ^{viii} Kirkpatrick, *A practical guide for supervisory training and development*.
- ^{ix} Treffinger, Feldhusen, & Isaksen, *Guidelines for Selecting or Developing Materials to Teach Productive Thinking*.
- ^x Ekvall, *Organizational Climate for Creativity and Innovation*. *The European Journal of Work and Organizational Psychology*.
- ^{xi} Isaksen, Treffinger, & Dorval, *Climate for Creativity and Innovation: Educational Implications*.
- ^{xii} Treffinger, & Feldhusen, *Planning for Productive Thinking and Learning*.
- ^{xiii} Talbot, *Nurturing and Developing Creativity*; Chapter 8, *Creativity in the Organizational Context*.