

Knowledge alliance in training for innovation: the case of EU funded TACIT project

Anna Trifilova\*

Business School

University of Exeter, UK
University Address: University of Exeter, UK Streatham Court, Streatham Campus, Building 1, Business School, Exeter, Devon, EX4 4 ST, United Kingdom
E-mail: a.trifilova@exeter.ac.uk

*\* Corresponding author*

Elena Korostyshevskayа

Department of Economics

Saint-Petersburg State University

University Address: St. Petersburg State University, UniversitetskayNabereshnaya, 7/9, Saint Petersburg, 199034, Russia

E-mail: lenkor7@mail.ru

Diana Artemova

Department of Economics

Saint-Petersburg State University

University Address: St. Petersburg State University, UniversitetskayNabereshnaya, 7/9, Saint Petersburg, 199034, Russia

E-mail: d.artemova@spbu.ru

RaigulDoszhan

Department of Economics and Business

al-Farabi Kazakh National University

University Address: Al-Farabi Kazakh National University, al-Farabi Ave 71, Almaty, 050000,  Kazakhstan

E-mail: raiguldos2011@gmail.com

**Structured Abstract**

**Purpose** –This paper is based on an on-going Erasmus+ Knowledge Alliance project on training for innovation and entrepreneurship. In this project we focus onstudying ‘tacit’ knowledge as an ‘ability to act’ and in the case of innovation and entrepreneurship to‘develop the ability to realise value creation from good ideas’. The consortium consists of industrial partners (Lego, Lufthansa, BMW, Nokia Networks, AachenMunchener, Torbay Hospital) and academics (University of Exeter, University of Southern Denmark, RWTH International Academy, Leipzig Graduate School of Management) who share a concern with the question of how do we improve on current innovation management and entrepreneurship teaching, coaching and training?

**Design/methodology/approach**– We are exploring novel modes of teaching including the following (each has a respected pedagogical foundation and has been tested in pilot form): storytelling; peripatetic learning; futures-based learning; entrepreneur laboratory; innovation theatre; design making; innovation games, and project-based learning.It is a three-year project and in this paper we share our experience around the issues of how a knowledge alliance between universities and industrial partners can be fully integrated to co-create methods that for both training companies’ employees and teaching students. We describe about developing methods as well as growing a knowledge alliance.

**Originality/value –**In the projectwe don’t aimmuch at designing a new curriculum rather taking the important elements of existing programmes and focusing on exploring more effective delivery mechanisms. In particular we are trying to capitalise on the shift in thinking towards new modes of trainingand we are exploring pedagogies that develop the individual’s ability to face and adapt to the innovation and entrepreneurship challenge.We see that learning in times of constant change increasingly challenges educational institutions and business organizations alike. In contrast to past decades, knowledge has become more complex, contexts change faster and knowledge is required in different contexts at the same time. Memorizing information and applying established methods within single fields is not sufficient anymore where problems span cultural and functional boundaries.

**Practical implications**– In terms of the wider benefit to enterprises across Europe, we recognise that innovation lies at the heart of what they do, from the initial stages of start-up through to the difficulties of building on their original ideas and developing new offerings, improving their processes and opening up new markets. The challenge of establishing a healthy business able to repeat the innovation trick and deliver a steady stream of change depends not on luck but on the ability to understand and enact innovation. This requires learning and capacity building around entrepreneurship skills.

**Keywords –**Knowledge alliance, innovation, co-creation, training

**Paper type** –Practical Paper

# 1 Introduction

There is a plethora of textbooks on innovation&entrepreneurship with many universities and consultants offering courses dealing with the subject. Their target is to enable individuals to become entrepreneurs and/or for their organisations to create value from knowledge (innovation). A problem with much of this educational material is that it remains rather abstract and relies on the individuals to be able to put their learning into practice. This is a stumbling point for many organisations where learners know how they must act as a result of their training and education but they lack the ability to do it.

This paper is based on an on-going knowledge alliance project[[1]](#footnote-2). Our project however is not a criticism of the current provision – indeed several of the applicants are part of the ‘traditional’ delivery system. Rather it is a recognition that such provision misses some key elements and in particular that there is a challenge to engage individuals in developing their personal skills to support change in their organizations. We suggest that they need to gain ‘tacit’ knowledge, which is defined by an ‘ability to act’, in this case in innovation&entrepreneurship and develop the ability to realise value creation from good ideas. This however is a significant challenge – the contemporary models for education do not lend themselves to learning-by-doing and skills development (Thomas and Brown, 2011; Brown and Vaughan, 2010; Kolb and Kolb (2010); Mainemelis and Ronson (2006) – and this is why our project focuses directly on this. As people’s culture of learning is largely coined through the educational institutions, it seems natural to follow a threefold approach where research, teaching and practice are understood as interdependent dimensions of knowledge, knowing and learning (Sproedt and Heape, 2014). Participatory innovation (Burr and Matthews, 2008) brings these different strands together in the development and application of research-based teaching and teaching-based research for, with and about innovation practice in organizations.

Our core question is around the learning challenges which organizations and individuals face in developing understanding and skills for innovation management. In particular we wish to explore the range and efficacy of different delivery modes and to provide approaches for better matching context with such delivery modes.Next, we describe methodology of the project addressing the issue of how we will look into a query of understanding tacit element in training for innovation and entrepreneurship.

## **2 Methodology of the project**

The project design, or how and what TACIT is going to achieve is presented on a drawing below (Figure 1). The design of our project reflects some core principles in innovation management: co-creation with partners and users and learning through prototyping and iterative experimentation. As the project plan sets out we deliver a series of phases of work, each engaging all partners within the Alliance and building on shared knowledge and experience. A schematic diagram of our process explains the timeframes, partner activities, key outputs and outcomes and is included at the next page. Our major milestones (MS) relate to completion of four big project phases as well as sub-phases within them (Table 1).

**Table 1** Project design and implementation

|  |  |
| --- | --- |
| **Project phases** | **MS & Outcomes of each phase** |
| Phase 1: 6 months to capture end-user needs in detail, building on prior knowledge and experience | 1 qualitative study of company partners 1 quantitative study of university student’s needs 3 concept workshops  |
| Phase 2: 12 months to design and deliver prototyping workshops. The results of this phase feed into the design and development of the final versions which will be field-tested in Phase III. | 4 laboratory workshops 8 training workshops Evaluation and quality assurance surveys |
| Phase 3: 12 months for final design. The outputs will be codified into pedagogical and teaching materials for open source | 8 training workshopsEvaluation and quality assurance surveys |
| Phase 4: 6 months to finalising, uploading and certifying materials for showcase  | 6 ECTS Certified Module to be embedded in the existing curricula of higher education institutions and corporate training programs |

Source: Developed by TACIT consortium

## **3 Description of project methods**

In this section we present every method addressing the question of what are the learning outcomes of every teaching approach under the development inside TACIT project.



Figure 1 Methodology design of TACIT project subject of this paper

## **3.1 Storytelling**

All innovation projects, whether new concepts at the start-up stage of a new business or development projects within established organizations, require ‘pitching’ the idea to others to secure resources, commitment and support. This places emphasis on the need to develop a compelling narrative which can unfold as the innovation develops; recent years have seen an upsurge of interest in this approach and in the tools and techniques which can support it.  How could we use the skills of storytelling to improve aspects of innovation management? Making more persuasive pitches? Developing a storyboard for entrepreneurial ideas? Carrying forward useful innovation management lessons from past experience within the organization?

## **3.2 Walking the talk – peripatetic learning**

The great Greek philosopher Socrates had the idea which neuroscientists are now supporting – we are receptive to ideas when we are moving. Couple that with a truism, that changing our context makes us see things differently – and there is the basis for a new approach to learning about managing innovation. The core approach here is to use guided walks through landscapes which are full of examples of innovation – and explore them whilst in the open air, walking and discussing them away from the classroom context.

## **3.3 Future-based learning**

Innovation is about creating alternative futures and a powerful set of tools exist around scenarios and other projective techniques; some of these have been embedded in powerful methodologies such as Shell’s Game changer programme or the Future Agenda consortium. This strand of work will set up an ‘IF-Lab’ (Imagining the Future-Laboratory) – a place where participants imagine alternative futures and explore within them opportunities and challenges which can form the basis of novel product or service concepts. From these rich pictures tools for ‘back-casting’ and road-mapping can be used to develop clear pathways to take innovation opportunities forward.

## **3.4 Entrepreneur laboratory**

There’s been an explosion of interest in start-ups and how to engage and enable new ventures. They involve developing novel value propositions and expanding them into robust business models which can realize the potential value for end users. Coupled with powerful new approaches around rapid prototyping of minimum viable products, getting early feedback to refine ideas and pivoting towards a solution they provide a fast track to developing and implementing innovation. But such 'boot camp' models aren't just relevant to start-ups and high tech enterprises. They can help existing organizations rethink how they come up with and carry forward business cases. Building on experience in companies like BMW, Nokia and Lego this strand of work will explore in a practical way of how to bring the entrepreneurial lab into the mainstream.

## **3.5 Innovation theatre**

‘*All the world’s a stage’* as Shakespeare pointed out – and one part of that stage is where the drama of innovation is being played out. So there is considerable scope for using not only the metaphor but also some of the tools and techniques from the world of theatre to explore the characters, scripts and scenery of innovation in different contexts – and to develop new tools and approaches to working with innovation. In particular we draw on experience at the University of Southern Denmark which has worked for years on using theatre-based approaches to improve understanding and performance in real organizations.

## **3.6 Innovation games**

Play and playfulness are increasingly being recognised as powerful aids to creativity and innovation. The concept of ‘serious play’ reflects this growing interest and this strand of work will explore the different ways in which games and structured play can provide new learning opportunities to develop innovation capabilities. These might range from simple live exercises through to more structured interactions and even online and virtual world gaming.

## **3.7 Design making**

‘Design thinking’ has become on of the ‘hot topics’ in the innovation field in recent years, reflecting both an approach to solving problems and a wide-ranging toolkit which people can use to embrace design methods. Organizations like IDEO have demonstrated the potential of this model in a variety of public and private sector innovation contexts and it brings important new perspectives especially around user understanding and prototyping. This strand of work not only seeks to explore the ways in which design thinking can be used in learning how to manage innovation more effectively but also looks at ‘design making’ – the range of approaches which enable user engagement in prototyping and concept testing of various kinds.

## **3.8 Project-based learning**

Innovation isn’t an academic or theoretical matter – it is the practice of turning ideas into value. And much of what we’ve learned has come from reflecting on projects – successful or otherwise – and pulling out relevant lessons. This strand of work will look at the ways in which structured reflection can be used to capture learning from live innovation projects, and also how we can design reflection projects to help assess and enhance innovation management capability.

In the next section, we take one method (storytelling) for an example and show how we develop its content. We also share the practical aspects of how the work is being organised in a form of a knowledge alliance. Also, we show how gained knowledge is being disseminated and transferred outside the consortium.

4 Learning the craft of storytelling

## **4.1 Storytelling as a concept**

It is well known that there is a case for seeing the entrepreneurial process as one dependent on being able to articulate and elaborate a core narrative (Drucker, 2014; Bessant &Tidd, 2015). This then raises the question of how best to do this. Building on the business case content mentioned earlier an increasing range for support tools have been developed which help provide structures for capturing and sharing the ‘innovation ‘story’. A good example is the popular Business Model Canvas (BMC) which offers a structured framework for developing the ‘chapters’ of the story (Osterwalder and Pigneur, 2010). In essence the BMC involves a process of developing an explicit representation of how an idea can create value. Typically it requires thinking about key questions such as:

* Value proposition;
* Value for whom – key target segments;
* Key channels to reach those market segments;
* Key relationships in reaching them;
* Key activities;
* Key relationships;
* Key resources;
* Cost structures in delivering;
* Revenue streams;
* Future development of the model and appropriability;
* *etc*.

These can be seen as building blocks around which a story can be developed and then, as more information and experience is gained, elaborated and modified. All these elements would be part of a ‘conventional’ Business Plan for a new venture or an internal project case. The key difference in the BMC approach lies in two areas:

* Its s*ystemic* nature, identifying not only the component elements but also their interrelationships;
* its*dynamic* nature.

This approach offers – as in a physical model – a boundary object around which an increasing number of stakeholders can interact and explore how the idea can create value. In the early stage it may be the entrepreneur alone who has a vision and elaborates this in structured form into a business model. But in trying to explain it to others he/she needs to elaborate and explore, making the model both more robust and also changing it. The process of acquiring resources brings other perspectives into the mix – for example key knowledge holders, key sources of finance, etc. – and these players also interact around the boundary object. The Canvas functions as an evolving prototype, lending itself to the dynamic learning process outlined above and gradually making the initial vision one which is shared and supported by an increasing network of players, eventually including end users. Its particular value as a tool to support entrepreneurship lies on two directions:

* it is iterative, evolving as new information emerges and therefore lends itself to process of innovation in new ventures which is characterized by uncertainty reduction through learning and experimentation;
* it is available for sharing with others, bringing them into the discussion and allowing them to co-create the venture.

Such thinking can be approached in a number of ways and there are several powerful metaphors available to support this and expand the attractiveness of the concept to a wider audience. For example:

* the ‘business model canvas’ takes a painting/collage view, inviting stakeholders to elaborate a boundary object which is essentially a canvas on which ideas can be painted;
* Lego ‘Serious Play’ and other tools provide a physical version of this, representing ideas and how they create value via a form of sculpture around which people can interact and develop ideas. For example, Dumas uses the concept of the ‘totem’ as an integrating device in design thinking (Dumas, 1994);
* Storytelling essentially uses the idea of a dramatic narrative to tell and retell the story, bringing in others as the story is told and elaborated (Beckman & Barry, 2009);
* Futures/scenarios develop coherent interrelated ‘films’ in the manner science fiction which explore not only an idea but the context in which it is delivering value and how it got there (de Geus, 1996).

Entrepreneurs are important for economic growth and it is increasingly recognized that they play a key role in social innovation as well. As a consequence there is growing interest in the ways in which entrepreneurship might be developed and enabled and this is a core policy issue for national and cross-national agencies like the European Union.

A key part of this challenge is that of ‘entrepreneurial capability’ (EC) – the ability to create value from an idea. Much recent policy emphasis has focused on ways of helping develop these skills but many of these efforts have targeted groups like high tech spin offs and business graduates – people for whom a subset of the core tools and skills is available or easily assimilable. It raises a question of how to enable skills development in inexperienced and potentially excluded potential entrepreneur groups.

Our current research involves testing out the use of storytelling approaches amongst a sample of companieswithin the project content. We are evaluating different storytelling tools and supporting frameworks (including innovation theatre, scenarios and simulation, design thinking laboratories and variants on BMC approaches) and developing a methodology through which the issue of such techniques can be embedded as part of entrepreneur training and support. Next, we describe how within the current TACIT project storytelling as a method is being developed.

## **4.2Working on storytelling as a training method for innovation and entrepreneurship**

At TACIT (Table 1 & Figure 1) each method has been prototyped first on the level of a research group, then tested on the scale of the consortium for internal evaluation and after that case-shownfor a wider scope of dissemination and exploitation (Figure 2).

Level 1: Research Group

Level 2: Knowledge Alliance Consortium

Level 3

Level 2

Level 1

Level 3: External partners and outside organisations

**Figure 2**. Levels of co-creation and evaluation of TACIT method as part of the project

At TACIT project Storytelling Research Group (SRG) is being led from academic side by the University of Exeter, from practitioner’s angle by Horizon Institute of NHS and it has also an industrial partner Lufthansa Systems. These three organisations make Level 1 for storytelling design. To illustrate, based on project methodology given on Figure 1 (Year 2) SRG has been organised three prototyping sessions in May, June and July 2016. Based on extensive literature review (Alvesson and Kärreman, 2007; Bartel and Garud, 2009; Boje, 1991, 2001, 2008; Brown at all, 2008; Denning, 2005; Gabriel, 2000, 1995; Garud at all, 2014; Schrage, 2000)SRG has been experimenting with using storytelling as a method for innovation management of organisations, as:

* *a carrier of messages* (stories reinforce our models and understanding of how innovation works in a vivid way);
* *educational aid* (there is a long tradition of using stories to carry important messages about directions and desirability for change);
* *diffusion aid* (in viral fashion ideas spread out from their source via the stories around them and if they are good storytellers then we are more likely to believe in them and accept the new idea which they are promoting);
* *knowledge managementtool* (organisations need some kind of memory, some way of remembering what they did and how they dealt with past problems);
* *a ‘change lubricant’*(studies of change management suggest that simply imposing decisions is not an effective strategy);
* *a framework for ‘pitching‘ ideas* (a significant element of the innovation forces involves situations in which one group make proposals for change – new product, service, process – to resource owners and decision makers);
* *a road map for entrepreneurs* (one way of looking at entrepreneurship is to focus on the ‘hero’ embarking on a journey to a far-off land, encountering strange people, slaying dragons, getting into tight situations and picking up surprising friends and resources which help him or her along the way);
* *co-ordinating mechanism*(innovation requires the coordinated efforts of many organisational members to facilitate innovative ideas to generate novelty, real-time problems solving and linkages between present activities with past experiences and future expectations);
* *a way of exploring the future* (science fiction is a branch of storytelling which creates pictures of the future which we can climb inside and explore safely and early);
* *vision statement*(creating and sharing a compelling a vision is a key element in radical innovation, whether in the form of a start-up idea or a major shift in direction for an established business).

We can see many of these themes played out in the reported experience and practice of innovation in organisations. Having tested a number of approaches within TACIT SRG (Level 1), to get feedback and evaluations a workshop with university undergraduate and postgraduate (mixed) student workshop was organised in November 2016 (Level 2).

With students’ feedback at the beginning of 2017 another two workshops were organised for Level 2 in February (in the UK at NHS, Horizon Institute) and in March (in Frankfurt, at Lufthansa Systems).

Before going to Level 3 testing, SRG will have another pilot in May 2017 at NHS with entire TACIT consortium representatives. With these feedbacks, SRG is reaching out Level 3 and will be delivering a workshop at annual ISPIM conference in June 2017 in Vienna, Austria for external organisations.

To sum up, SRG has organised three prototyping workshops for Level 1 and three prototyping workshops for Level 2. This is the methodology which is TACIT Knowledge Alliance has introduced and is implementing on ‘learning-by-doing’ basis (Ying, 1967). Prototyping storytelling as a method for training innovation and entrepreneurship within TACIT Knowldege Allinace based on three pillars (i) literature (Alvesson and Kärreman, 2007; Bartel and Garud, 2009; Boje, 1991, 2001, 2008; Brown at all, 2008; Denning, 2005; Gabriel, 2000, 1995; Garud at all, 2014; Schrage, 2000), (ii) project methodology (Figure 1, Year 2) and (iii) Levels of co-creation and evaluation (Figure 2) – led to a number of conclusions. Participants (P) of prototyping workshops, in particular, stated:

P1: “*Provided evidence of why we should use stories as they are hard wired*”.

P2: “*Topic was interesting, lecturer was inspiring and has a lot of know how*”.

P3: “*There was potential to learn a lot*”.

P4: “*Will there be a second part?*”

P5: “*When it ended I was just starting to learn something (far too early to stop)*”.

P6: “*Storytelling is a good method for communication, but also for products & services”*.

For members of SRG,one of the results of testing literature review was: “*There are two very broad elements: (i) use of narrative/story structure to frame your communication, and also (ii) some of the performance storytelling tricks of actually presenting: gaining and keeping attention, audience interaction and so on. So there’s some presentation skills tricks in there, too*”. Among other conclusions, we should name our understanding that to develop a methodology this will enable innovation trainers to teach staff in their organisation to use stories as part of the innovation process. In its turn this will include answers to:

* what are the key components that make a story;
* how can these be applied to presentations / data / information;
* what are the advantages of using stories;
* where in the innovation process they might be usefully deployed.

For innovation and entrepreneurship, one of the other outcomes of prototyping phase is the role of storytelling for organisations:

**Table 2** Role storytelling emerging from and supported by TACIT project prototyping

|  |  |
| --- | --- |
| **Stage**  | **Role of Storytelling**  |
| Problem  | Describing and/or understanding the problem in way that not only helps perceiving the issues at a human level, but also engaging people in wanting to help find solutions (motivation) |
| Ideation  | Once the problem(s) has been better described, better understanding of issues to be addressed will help generate ideas for solutions  |
| Filtering  | Selection of ideas to take forward. Story as a way of pitching an idea you believe in, but also as a way of forward testing what it might look like if implemented (link to future-based learning) |
| Prototyping | All these will involve conveying concepts and ideas to others whose expertise are required, for instance, stakeholder engagement and management. It will also support making pitches for different kind of resources (physical, human, financial etc.) |
| Testing  |
| Refining  |
| Deployment |
| Scaling  | Convincing others to adopt your idea either as a dissemination of best practice or as commercial transaction (linked to marketing). |
| Adoption  |
| Evaluation  | Reflecting on the process both for the benefit of others, but also personal understanding of where you are on the journey and why may feeling the way you are (case studies from users / adopters of the idea presented as stories) |

As the next step, SRG will look more in traditional storytelling and test in practice methodology of storytelling for business use. This is a three-year project and we will report more in the nearest future on the results achieved.

5 Practical implications and next steps

The needs and requirements for education are permanently evolving, hence the first part of our project focuses on exploring needs, resources and experience on both the supply and demand side and building up a clear understanding of where and how delivery could be improved around innovation and entrepreneurship.

The experience base of the project partners has already given us a rich perspective on the strengths and weaknesses of current education and training provision in the field of innovation and entrepreneurship. In particular, it highlights the need for project and practice-centred modes of working and for novel approaches to delivery, which challenge individuals and develop capacity for action at that level. Our project builds on this, develops and prototype a series of novel approaches to delivery, targeted at developing tacit knowledge and skills in innovation and entrepreneurship.

There are limits to what can be achieved with conventional approaches to education and training around innovation and entrepreneurship and in particular more needs to be done to develop individual capacity for action through acquiring tacit knowledge. We argue this can be delivered through mechanisms which meet needs for:

* project-based learning, linked to the real challenges participants face in trying to make innovation happen;
* recognition that different modes of learning; for many practitioners classroom style theory-based approaches do not work effectively;
* experiential learning, offering different ways of closing the learning cycle between theory and practice;
* skills-based learning, placing emphasis on what individuals working in organizations can actually do rather than focusing only on structures and processes to enable innovation;
* practice-based learning, allowing experimentation and gradual capability development through prototyping;
* building understanding of core principles around which individuals can configure solutions to the innovation challenge which work in their particular context.

The overall aim of the project is to develop and test mechanisms to build tacit knowledge in individuals around innovation/entrepreneurship. We deliver it by a series of work packages linked to the following objectives:

* + Review existing experience across the project consortium in innovation and entrepreneurship education/training provision.
	+ Explore, develop and test complementary methods for this.
	+ Specifically explore with project partners eight key areas:
		- Storytelling – developing a coherent innovation narrative linked to suitable boundary objects such as the Business Model Canvas, Lego Serious Play and other platforms;
		- Project-based learning, using live innovation challenges as a device to integrate key tools and concepts around IE;
		- Innovation theatre, using formal approaches including role play and simulation to explore perspectives and challenges in innovation;
		- Entrepreneur laboratory, using tools and techniques from lean start-up and developing / testing innovation concepts through agile processes such as minimum viable product;
		- Futures-based learning through simulation, scenario development and Game changer techniques;
		- Peripatetic learning, using a Socratic approach to exploring landscapes and artefacts which can be used to illustrate core concepts in managing innovation;
		- Design thinking – drawing on the growing resource and practice base around user-centred high engagement processes for innovation to articulate and prototype in context;
		- Innovation games – working with the concept of ‘serious play’ and enabling learning through a variety of settings from simple workshop experiences through to extended structured games.
	+ Develop a robust methodology and a toolbox of options to support its implementation.
	+ In parallel build a community of practice around IE education and training involving practitioners, policy-makers, researchers, consultants and academics.
	+ Create and certify a 6 points ECTS module which can be used in award bearing programmes across Europe.
	+ Create and maintain an open-source version of the ‘toolbox’ of novel learning approaches.

In terms of the wider benefit to enterprises across Europe, we recognise that innovation lies at the heart of what they do, from the initial stages of start-up through to the difficulties of building on their original ideas and developing new offerings, improving their processes and opening up new markets. The challenge of establishing a healthy business able to repeat the innovation trick and deliver a steady stream of change depends not on luck but on the ability to understand and enact innovation. This requires learning and capacity building around entrepreneurship skills.

6 Acknowledgement

Further research in the area is a part of EU Erasmus+ Knowledge Alliance TACIT project EAC/A04/2014, application: 562459-EPP-1-2015-1-UK-EPPKA2-KA.This project has been funded with support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

References

Alvesson, N., Kärreman, D., (2007) Constructing mystery: Empirical matters in theory development. Academy of Management Review, 32(4), 1265-1281.

Bartel, C. A., Garud, R., (2009) The role of narratives in sustaining organizational innovation.Organization Science, 20(1), 107-117.

Bessant, J., Tidd, J., (2015) Entrepreneurship and Innovation, John Wiley & Sons; 3rd Revised edition edition.

Boje, D.M., (2001) Narrative methods for organizational and communication research.Sage Publications, London.

Boje, D., (1991) The story telling organisation: A study of story performance in an office supply firm. Administrative Science Quarterly, 36, 106-126.

Boje, D.M., (2008) Storytelling organizations. Sage Publications, London.

Brown, A.D., Stacey, P., Nandhakumar, J., (2008) Making sense of sensemaking narratives. Human Relations, 61(8), 1035–1062.

Brown, S., & Vaughan, C., (2010) Play: How it shapes your brain, opens the imagination, and invigorates the soul, Penguin Group, New York.

Buur, J., & Matthews, B. (2008). Participatory Innovation. International Journal of Innovation Management, 12(3), 255 – 273.

Denning, S., (2005) The leader’s guide to storytelling. Mastering the art and discipline of business narrative. John Wiley & Sons.

Drucker, P. (2014). Innovation and Entrepreneurship.Routledge.

Gabriel, Y., (1995) The unmanaged organization: Stories, fantasies and subjectivity. Organization Studies, 16(3), 477-501.

Gabriel, Y., (2000) Storytelling in organisations: facts, fictions, and fantasies. Oxford University Press.

Garud, R., Schildt, H.A., Lant, T.K., (2014) Enterpreneurial storytelling, future expectations, and the paradox of legitimacy.Organization Science, 25(5), 1479-1492.

Kolb, A. Y., & Kolb, D. A. (2010) Learning to Play, Playing to Learn: A Case Study of a Ludic Learning Space, Journal of Organizational Change Management, 23(1), 26-50.

Mainemelis, C., &Ronson, S. (2006) Ideas Are Born in Fields of Play: Towards a Theory of Play and Creativity in Organizational Settings, Research in Organizational Behavior, 27, 81-131.

Osterwalder, A., Pigneur, Y., (2010) Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers,John Wiley & Sons; 1stedition.

Sproedt, H., &Heape, C. R. A. (2014). Cultivating Imagination Across Boundaries – Innovation Practice as Learning Through Participatory Inquiry. Proceedings from 15th International CINet Conference, “Operating Innovation – Innovation Operations” 7-9 September 2014, Budapest, Hungary, Budapest.

Schrage, M., (2000) Serious play: How the world's best companies simulate to innovate. Harvard Business School Press, Boston.

Thomas, D., & Brown, J. S., (2011) A New Culture of Learning – Cultivating the imagination for a world of constant change, CreateSpace, 2011.

Ying, Charles C., (1967) Learning by Doing—An Adaptive Approach to Multiperiod Decisions, Operations Research, Vol 15, No 5, pp. 797–812.

1. This is a 3-year EU Knowledge Alliance (2016-2018) under the Erasmus+ programme called “Teaching and Coaching Innovation Innovatively” (TACIT). Partners include Aachen-Münchener, ASIIN, BMW, ISPIM, LEGO, Lufthansa Systems, Nokia and NHS Foundation Trust together with University of Exeter (UK); Southern Denmark University (Denmark), Leipzig Graduate School of Management (Germany) and Aachen RWTH International Academy (Germany). [↑](#footnote-ref-2)