

Collaborative Knowledge Visualization Case Study Series

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TRAINIAC: Making Training Collaborative through Learning and Journey Maps

Janine Widler, Martin J. Eppler

Abstract

This case study highlights the potential of the collaborative use of large, graphic maps in training and corporate communication. It introduces two visual methods of Trainiac – a South African consultancy that offers picture based learning solutions. Their intriguing graphic environments – also called “Pictureware” – stimulate exploration and social interaction, which allow organizations to achieve learning goals and to overcome departmental and hierarchical barriers in knowledge communication. Specifically, the case study describes the *Learning Map* and the *Journey Map* methods that are used to inform employees about the overall logic of a company’s operations. While a Learning Map depicts a company’s value chain and service provision as well as (location-based) interactions with customers, a Journey Map consists of a metaphoric story that captures essential insights about the company and its value proposition. The case also includes application experiences and examples and concludes with future opportunities and challenges for this kind of novel offering.

This case study has been written in 2008 by Janine Widler under the supervision of Prof. Martin J. Eppler. It is intended as a basis for class discussion and highlights the innovative use of visualization for business purposes.

Introduction

One of the key challenges of today's knowledge-based economy consists of conveying procedural and orientational knowledge effectively to employees who require such insights for smooth operations in their daily interactions with customers and colleagues. This is especially true for service-based, interaction-intensive industries such as health care, financial services or customer service functions in general.

Traditional one-way trainings often do not produce sustainable effects and frequently have a limited impact on the behavior and attitude of employees. In this case study, by contrast, we present a radically different way to conduct trainings. It consists of employing *large scale desktop maps and cue cards* as collaborative learning devices that enable joint sense making through conversations and increase the focus, attention and engagement of participants with the learning material. Another main advantage for corporate training contexts is the maps' ability to trigger immediate feedback and probing questions.

Two methods will be highlighted and discussed in the case study, the Learning Map (geared toward employees), and the Journey Map (typically used to inform potential clients). Both methods have been developed, tested and extensively used by Trainiac, a South African educational consultancy. The next section briefly outlines the institutional characteristic of this 'training boutique' before we describe its interactive and visual approach to training.

The Corporate Context of Trainiac

"If we got people to engage around elaborate, careful, meaningful pictures in a fun, almost social-type way, then would learning be fun? Would they learn faster? Would they remember it more? Would they practice it more? Would they come away, having achieved a better learning result?"

Rob Dennison, founder and managing director of Trainiac

Trainiac (www.trainiac.co.za) started its operations in 2001 with the mission to 'rough up' the South African training industry by introducing picture-based learning solutions. Its founder Rob Dennison had himself undergone an instructional design course that he describes as boring, stale and absolutely terrible. From this course, however, his vision was born to make training a *fun experience*. At the same time Judd Knight founded Elemental Partners, providing visual solutions to communicate invisible assets. Six years later, the two businesses merged and became the Trainiac of today, employing 31 people, ranging from graphic artists, instructional designers to psychologists. Trainiac has a client base that consists of almost all of the leading South African companies.

In the highly fragmented South African training market with more than 5,000 small players with less than five employees, Trainiac is the only provider of picture-based learning solutions. Competitors are global visual training and communication companies such as Paradigm Learning, Rootlearning or Xplane, and in terms of instructional design and training

programs companies such as Learning Advantage, Learning Resources or High Performance Learning.

With an expected increase in sales from US\$ 1.6 million in 2007 to US\$ 2.0 million in 2008, Rob Dennison is aware that Trainiac is no longer “(...) *the get-along gang that we used to be, just by adding more people and more complexity*”. But after a failed attempt to introduce middle-management by bringing in ‘outsiders’, Trainiac is now back again to a flat, team-based organizational structure (see Figure 1).

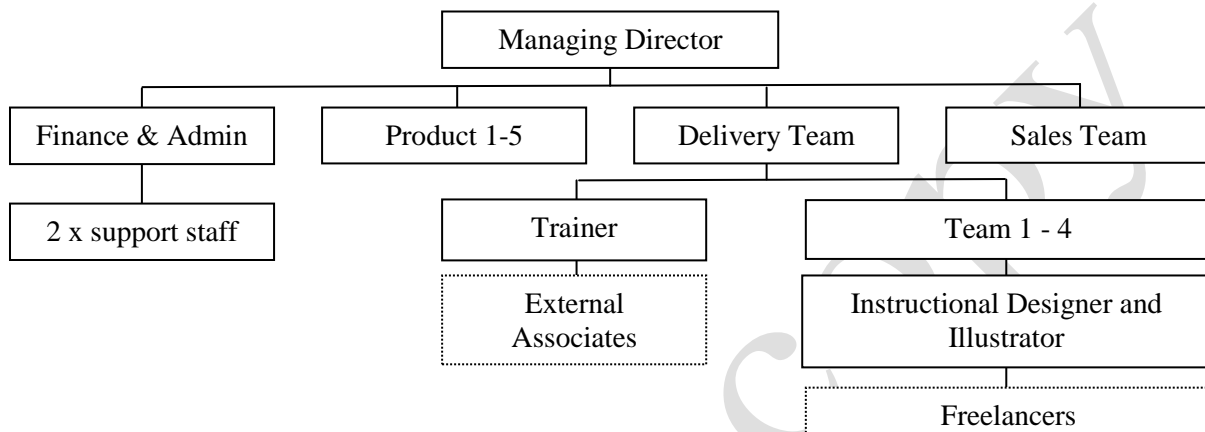


Figure 1: Trainiac’s organizational structure

Despite a flat hierarchy and project-based work, Trainiac has to offer its “*bright young team that held the business together*” growth and career opportunities within the organization. A self-managed, team-based structure (with one instructional and graphic designer per team) proved to work well for Trainiac: “*We think of ourselves as doctors in jeans. We are not trying to be very corporate*”, as Rob Dennison puts it.

Trainiac’s Visual Approach to Training

Trainiac’s first client was the global oil company BP who was in need of safety and service training for its petrol station staff. Whereas BP previously had to translate its training manuals in over thirty languages, Trainiac’s picture based solution was both language and literacy independent and was ultimately implemented in eleven African countries. Today Trainiac still targets large corporations, mostly because of scale economies – the development process of its solutions being time and material expensive. Rob Dennison generalizes that the average end user of Trainiac’s learning solutions are the ‘*masses within any business*’, which normally means the lower half of the work force.

Trainiac’s visuals are used to train people who are not used to think conceptually or in abstractions, but they are not explicitly designed for lower level learners. Still, there is at

times a prejudice that Trainiac’s solutions are too simplistic for senior managers: “(...) because their mindset is that drawings and illustrations are for children, and how could a drawing, how could a cartoon, how could Mickey Mouse teach me anything, because I’m a CEO of this massive company”, says Rob Dersley, Concept Developer at Trainiac.

To overcome these initial barriers, Trainiac actively involves managers in the map development process by sketching live in front of them, thus inviting them to add their views and knowledge. This technique not only makes the clients lose their critical outsider perspective, it also provides Trainiac with immediate feedback and makes overly familiar or under-recognized aspects in the organization visible to the management. Or as Judd Knight, head of product development, puts it: “(...) In our world the collecting of information visually becomes quite important, because of that feedback mechanism. And also it’s just more engaging. People like it”.

Trainiac’s typical client either works in the HR, Learning and Development or Training department, or is a project manager in for example Marketing, Sales or Branding. Trainiac works on a project basis with relatively short project cycles of two to three months. The general workflow process follows the typical instructional design process of analysis, design, development, implementation and evaluation, illustrated by Trainiac in their unique drawing style in Figure 2.



Figure 2: Trainiac’s workflow process

In the following chapters two of Trainiac’s key visual formats – the Learning Map and the Journey Map – are introduced and illustrated.

Learning Map: Transforming Learning into Conversations

“I think of the Learning Map as a portal. It’s a world, it’s a window, and it allows people to connect with each other, as opposed to connecting just with the content.” Gareth Kingston, Instructional Designer

What today is the centerpiece of every Trainiac learning program has originally been developed to ensure the learners understood their role in their organization, as opposed to only their immediate work environment. It is a visual representation of an organization, illustrating its departments, actions and job functions representing the actual buildings, artifacts and characters as shown in Figure 3.



Figure 3: Learning Map developed for Eskom

The visual is drawn from an elevated perspective, providing the viewer with a diagonal top-down view. The characters have a yellow head on a square body and are not meant to represent a specific race or gender. The idea of keeping the characters gender- and race neutral is not only a matter of political correctness; it also enables people to identify with each character regardless of their background.

The Learning Map is designed for an interactive and playful way of group training. Instead of the usual lecture-style teaching, a facilitator gathers up to five learners around the visual and encourages them to engage with it. Through activities such as identifying objects, drawing on the map, playing games, competitions, role-plays and storytelling, people connect with each other and link the content information to their personal experiences.

The following examples illustrate the development and use of the Learning Map.

Training Operational Staff in Electricity Distribution

The South African electricity provider Eskom commissioned Trainiac to develop a program to train their rural operational staff in the overall organizational value chain and the value chain relevant for electricity distribution in particular.

In the development phase, an instructional designer and a graphic designer went on site visits to amongst others a distribution center, a control center and a call center of Eskom: the graphic designer got inspiration on how Eskom's world looks like, and the instructional designer got an idea of the artifacts, characters and actions that needed to be part of the Learning Map, such as transformers, transmitters, power lines and pylons and scenarios such as building new electricity stations in rural areas or somebody cutting copper wires (see figure 3). There is always a certain amount of realism in a Learning Map in order for the learners to easily project themselves into it. To facilitate the engagement with the visual and consequently with the content of the training, the Learning Map is usually printed in large poster-size format and is placed on a table: *"(...) because if it's on the wall, people don't want to embrace it. Whereas if it's on the table and you inform them that they're welcome to touch it (...) they start to point things out and they lean over it and they get really into what's going on. So you have to take the threat of a picture, and not to be allowed to touch a picture, away from them"*, explains Stanley Bawden, trainer at Trainiac.

The Learning Map is used to encourage both interaction with the content and to stimulate social interaction in the group. The idea is to distribute the cognitive workload of the training program amongst the team members and to create a feeling of ownership: *"It's empowering for learners to know that the knowledge that they've learnt in the day has come from themselves"*, says Carolyn Lewis, instructional designer at Trainiac. To introduce the Eskom value chain for example, the facilitator reads out a story and the groups are asked to simultaneously map it out on the Learning Map with a piece of string and tape. In this way the team gradually understands how individual elements or steps relate to each other and form a bigger picture of their operations.

A second example set in the health care sector further illustrates this powerful 'big picture' effect of a Learning Map.

Training Hospital Staff in Customer Care Excellence

The South African healthcare group NETCARE commissioned Trainiac to develop a learning solution to train the nurses and receptionists of their hospitals. The Learning Map showed the operational and the external environment of a NETCARE hospital.

At the beginning of the training session, people are first given some time to discover the Learning Map individually. To make sure that they are getting engaged, the facilitator then calls out scenarios such as: "Find the old man having a heart attack" and the first person to spot it, receives a couple of sweets. Icebreaker exercises like this are often repeated during

the training sessions, because “(...) if you constantly refer back to this world, they’re picking up different pieces every time they look at it”, says Carolyn Lewis.

Another typical activity around the Learning Map is sorting and sequencing so called Action Cards (see figure 4). To memorize a process, its single steps are represented on cards the size of playing cards, which the groups are asked to either stick on the adequate place on the Learning Map, or to sort in the right order. People are also encouraged to draw on the map, as for example how and where they see themselves in their job. Occasionally facilitators even invite their learners to play Twister on a Learning Map. The aim is that the learners go through a positive and fun experience together, which prevents them from adopting a critical outsider perspective towards the trainer and the training program. By conversing with each other through the visual object, the relationships in the team are strengthened: “(...) because people talk and because people engage, a lot of information is transferred to each other, you almost become more understanding of each other” says Stanley Bawden.

Carolyn Lewis describes how in the NETCARE training the Learning Map was used to enhance the big-picture thinking and to build relationships within the group: “I think the important thing is to place themselves in the same world, (...) a customer walks in, they’re greeted by the receptionist (see Figure 5). The receptionist then fills in paper work, the nurse then comes to fetch the customer. So, in the space of ten minutes, the customer has had a touch point with the receptionist and the nurse. To show as well that the customer doesn’t care that it’s a nurse or a receptionist, they’re there under NETCARE, they just want to be well again. They don’t care who the person is. And (...) everybody suddenly realized: we’re working towards the same goal. And, specifically, what happens if the receptionist doesn’t fill in the paper work? The next person they see is a nurse. What does a nurse now need to deal with? So it’s that big picture. It’s that: I can see the whole process from start to end. All the interactions, and the different actions that need to happen at each stage. And if they don’t happen, if they don’t occur, let’s look what happens to the customer, and he’s sitting in a corner, fuming, or he walks out of the door and goes to another hospital. That’s how the Learning Map works. (...) A very experienced nurse of forty-something years turned around and said: ‘Guys, let’s sort this out. How are we there to help each other?’ I didn’t do a thing as a facilitator, and she basically re-built relationships within her hospital.”



Figure 4: Action Cards



Figure 5: Excerpt of the NETCARE Learning Map

Journey Map: Telling the Story of the Customer

“There must definitely be some humor or fun involved.” Robert Dersley, Concept Developer

Another format Trainiac uses to visualize process knowledge is the Journey Map. It is a graphic way of storytelling, a method organizations use to influence the behavior of their employees or to explain the benefits of their products and services to clients. Storytelling aims at engaging people for training content by embedding it in a rich, lively context and tying it to intriguing characters that the participants can identify with. In this way they understand, remember and apply the acquired information better.

The Journey Map is composed of image and text, and as in every story there is a beginning and an end. Often there is also a hero and a villain, and in between there are challenges and obstacles to overcome. The drawing style varies from clean and iconic where the characters are portrayed as silhouettes, to an expressive and colorful cartoon-like style, and often embraces the client’s visual corporate identity.

A Journey Map can be used both as an information tool as well as an intermediary to enhance conversations. The following example was originally designed as a mnemonic device for sales representatives, but they eventually started taking the Journey Map along to meetings to explain their offerings to potential clients.

Communicating Procurement System Excellence

Dimension Data, a globally operating South African IT service provider, commissioned Trainiac to design an information graphic for their sales representatives that shows the benefits of their procurement system. A Journey Map combining a timeline and a pain-gain contrast proved to be the ideal format. Trainiac created a hero – Ruby Router – and a villain – Roddy Router. They both start a journey to Timbuktu at the same time, but only Ruby, with the help of Dimension Data, arrives safe and on time (see figure 6).

Concept Developer Robert Dersley highlights that thanks to the combination of visuals and text, the information condensed in the Journey Map can be absorbed gradually: *“If you don’t read the text, or just at a glance, you can actually see right upfront: okay, there is a good side and a bad side, and the good side has a shorter timeline and the bad side has a longer timeline, so immediately you get that concept straight away. Then you can go into the detail and you can go: ‘Oh, look, there is a little character and she is called Ruby, and this is her journey’. And the next layer would be: ‘Oh, okay, these are the different offerings within Dimension Data that they offer to help me get along the route.*

Trainiac also uses visual storytelling as a way of gathering information: *“I think the more interesting place to use the visual is actually in the gathering of the information. So if we’re sitting in front of a client, what we would love to do more than not is bring artists into the sessions so we can articulate visually in front of them. One of the cool things about a visual is the instantaneous feedback that it provides”,* says Judd Knight.

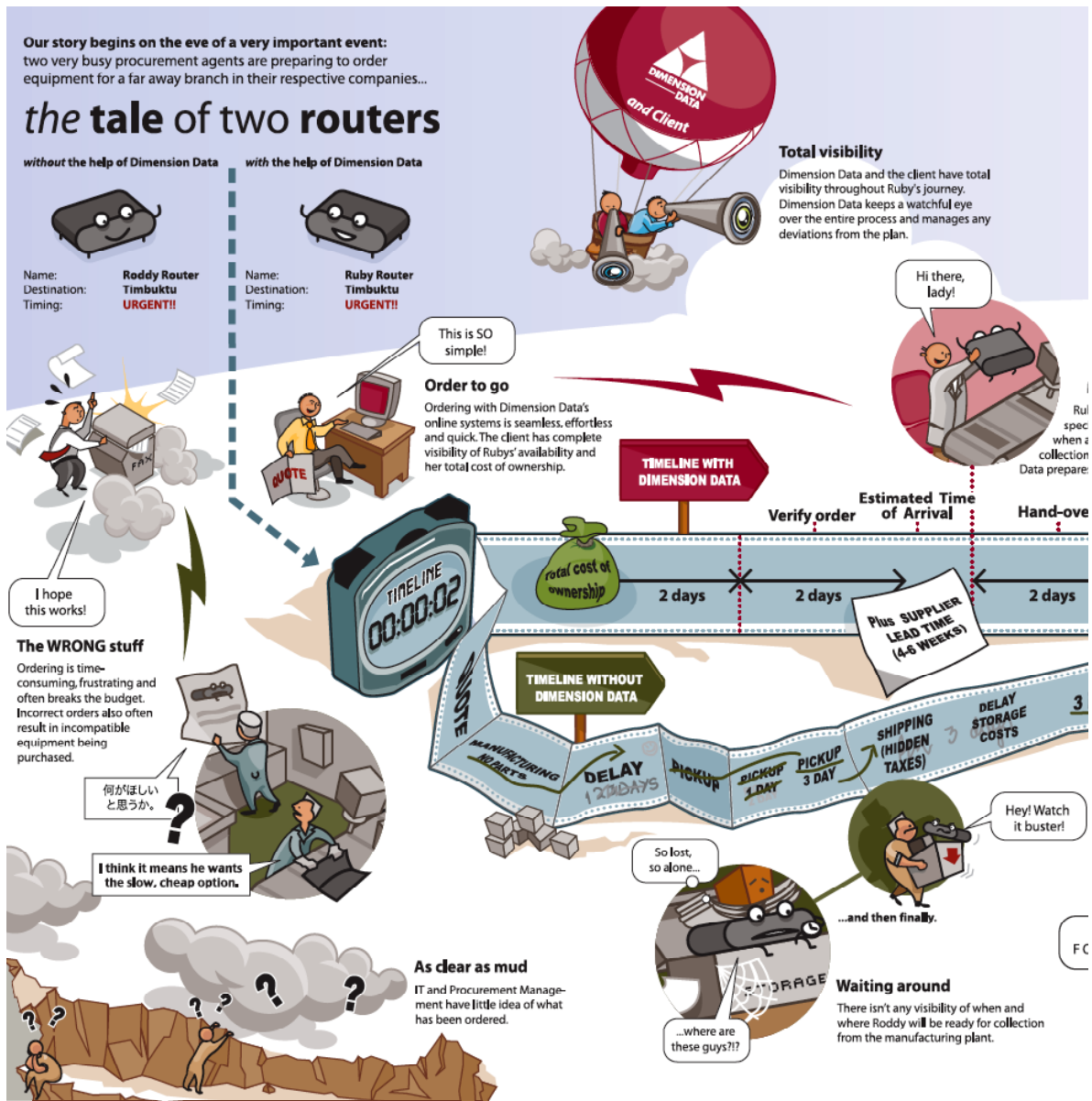


Figure 6: Excerpt of the Journey Map for Dimension Data



Benefits and Risks of Map-based Learning and Communication

“I think the perfect Learning Map is very simple.” Carolyn Lewis, Instructional Designer

Both methods introduced in this case study display a certain amount of information in a single graphic, as opposed to delivering it sequentially, as it is typically the case in a slide show or a written document. The information is dispersed and needs to be gradually explored. At first sight, the Learning Map often causes visual overload. As Carolyn Lewis explains: *“I think because they’re over-stimulated by information: in a visual, you could end up with sixty scenarios, and I think the facilitator needs to guide them through it, you need to give them enough time and space to actually be able to look at this, and breath it in, and absorb it (...).”* Or as Judd Knight puts it: *“I think that some people expect visuals to be very simple, so if I’ve got a twenty-page document, and I make that into a one-page visual, it’s still complicated, the visual is still complex”.*

To reduce the visual information load, Trainiac tries to keep their visuals as simple and plain as possible. Negative space is needed, and too many details lead people to either get lost in them, or they find it hard to focus on one specific scenario because they are distracted by what is happening next to it, a phenomenon also referred to as focus ambiguity. To help direct people’s focus on Learning Maps, Trainiac uses so-called Window Cards to isolate a certain scenario (see figure 7).

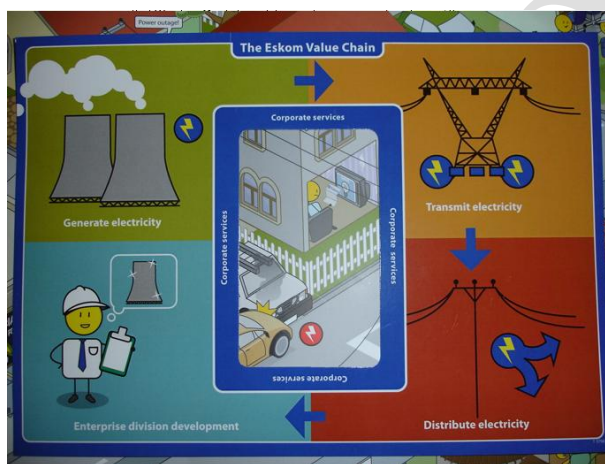


Figure 7: Window Card on Eskom Learning Map

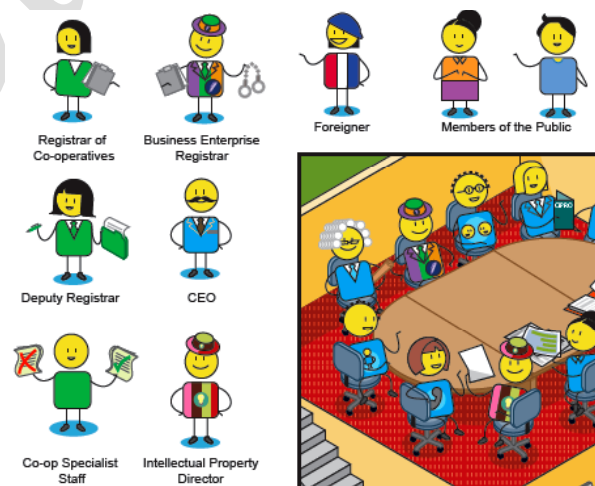


Figure 8: Excerpt of a style-guide

Whereas the development of especially the Learning Map and the training program going with it is expensive, the advantage of map-based learning and communication is its scalability and the multiple uses that can be made of the material. Depending on the type of group that is interacting around a Learning Map for example, the visual has other meanings. Gareth Kingston sketches out how a facilitator can use the same Learning Map in different ways according to whom he is training: *“If it was a team of managers, what does it mean to the*

company if there was a new competitor? The discussion would then focus on that particular role, (...) we can talk about political, economical, social, technological, legal, environmental elements, we can talk about supply chain management (...). If this was all the way down we can talk about customer service, so, how does it affect the customer if that person walks away unhappy?"

In order to allow for flexible usage, the visuals need to be unspecific to a certain degree. Whereas openness in the interpretation of a visual such as the Learning Map enables people to identify with it and gain new insights, visual ambiguity can also lead to uncoordinated discussions and disagreement, as Carolyn Lewis describes: *"We don't want them to go: who is that, because he is in red and we wear blue, so if that's us, it's the wrong color"*. To reduce the symbolic ambiguity of the Learning Map, Trainiac introduced a style guide. This visual library defines the meaning of symbols used in the Learning Map, for example to represent different job functions (see figure 8). A Journey Map sometimes is accompanied by a brief that explains how to read the visual or how to talk somebody through it, since, as Rob Dersley puts it: *"As powerful as visuals are, it's not intuitive to everybody"*.

Map-based learning and communication is designed to involve people actively in the process, or as Stanley Bawden says: *"It's all about doing. Because when you do, you learn"*. As much as people interact with the methods by placing Action Cards or mapping out a process with a piece of string on a Learning Map, the results of the activities are not documented, since the Learning Map needs to be cleared for the next exercise.

Group learning around maps can build and strengthen relationships in a team in so far that people engage with each other through the visual. Unlike in a classroom situation, the content is not delivered in a lecture style, but needs to be explored and elaborated in a group. Visuals used in knowledge intensive communication can actively diffuse conflict situations in that they are the central focal point of attention and critique is addressed to the visual object, as opposed to the trainer, salesperson or other group members. As Judd Knight points out: *"If you misunderstand something, it's because the visual is wrong, not because you're dumb or because I'm too smart."*

The following table contrasts the advantages and risks of map-based learning identified in this case study.

Advantages	Risks
Big picture orientation	– Visual overload and clutter
Engagement and identification	– Additional instruction and facilitation needed
Multiple use and scalability	– Expensive development process
Immediate retention and application	– Lack of documentation
Language and culture independent	– Visual literacy needed
Reduction of conflict	– Misunderstandings due to ambiguity
Untypical, motivating learning situation	– Success dependent on group dynamics
Information needs to be explored in parts	– Over-determination of visual

Table 1: Advantages and risks of map-based learning and communication

From the juxtaposition of the advantages and risks of map-based learning one can see that Learning Maps offer numerous advantages for effective trainings. Nevertheless, they require careful preparation and effort, as well as facilitation to avoid the numerous potential risks that may impede the map's optimal use.

Future Developments

At the time when this case study was being conducted, Trainiac was facing a few major strategic challenges in terms of future growth of the business. Questions that needed to be addressed were whether to develop their offerings rather in terms longer lifetime propositions of their services or aiming at a bigger sales volume, whether to expand internationally, how to protect its intellectual property and how to best manage its organizational content and knowledge. In terms of intellectual property, Trainiac currently indeed did not have control over how its methods are used after a project is finished. Especially a rather content-unspecific Learning Map might be used in ways that were not foreseen and could compromise on the quality and uniqueness of Trainiac's methods.

No matter how Trainiac and their methods will develop, Robert Dennison is sure to remain faithful to the visuals: *“During the life of the business we’ve really stayed pure to a couple of things, and one is the visual aspect. We’ve always been that type of business and we’ve always used this style of character and we’ve tried to get deeper and richer in terms of our insight around this specific type of work.”*

Conclusion

As business processes become ever more complex, interdependent and knowledge-intensive, informing employees (and customers) in an effective, engaging, and sustainable manner becomes a key challenge. In this case study, we have highlighted two visual ways in which this can be achieved. Although several companies have begun to apply this approach and demonstrated its effectiveness, it still remains an under-utilized strategy. Reasons for the limited use are the relatively high upfront investment that is needed, as well as the risks that are associated with the approach. However, proper planning and careful execution can address these issues adequately.

Case Questions

1. Can Learning and Journey Maps be extended to online environments and be used digitally? If so, how? What could be argued against the online use of such maps?
2. What profile in terms of skills and experience does a facilitator need to be able to conduct a Learning Map training session?
3. Which other application areas beyond training do you see for Learning or Journey Maps?
4. How could Trainiac scale its business?
5. In what way do the approaches of Xplane, Trainiac, and Rootlearning differ? Structure your answer in process (development and facilitation characteristics) and product (map characteristics) dimensions.