

**"Get JAZZED!"****Taking the knowledge perspective on e-Learning****Part 1: Reframing the context**

Virtual Jamming / A Knowledge Recipeⁱ for
Creating High-Performance E-Learning Spaces

Oliver Schwabe, January, 2006

Abstract

As the e-learning industry begins to mature, organizations using e-learning approaches or contemplating their usage are faced by increasing costs, delayed break-even, and continuously dissatisfactory business impact of measures deployed. In this three part article series, value and social networks methodologiesⁱⁱ are used to explain the nature of high-performance e-learning spaces that deliver significant business impact at low cost and break-even in short time-frames. A special emphasis is given to providing a framework for re-creating such spaces based upon practitioner experience in working with numerous Fortune 1000 companies, accredited U.S. and U.K. online / distance learning universities, international non-governmental organizations, and several virtual leadership development programs, with approximately 10 000 participants in over 50 countries and across 50+ subject themes. This article is the first of a trilogy that will move from redefining focus, through key process definition, and finally performance management / high-performance e-learning space design.

Definitions

- E-Learning space: The context within with the e-learning event takes place.
- E-Learning: Value generation through virtual relationships.
- Knowledge: Competence held exclusively by a living system.
- Learning: The creation, evolution, exchange and application of knowledge.
- Living system: Any biological organism or gathering thereof that evidences cognition, perception, unpredictable responses, and which continually renews and recreates itself.
- Relationship: The sustained synchronous or asynchronous exchange of information between living systems.
- Value: The creation, evolution, exchange and application of knowledge for the health of an individual, the success of an enterprise, for the vitality of a nation's economy, and for the advancement of societyⁱⁱⁱ.
- Virtual relationship: A relationship supported and enabled through collaborative technologies.

Introduction

In the knowledge-based economy, the effective and efficient delivery of learning experiences to individuals and groups of geographically dispersed knowledge workers is quickly becoming a prerequisite for creating sustainable organizational competence. Such learning experiences also need to support the development of virtual team working competencies, especially as members of organizations must increasingly share information and make decisions across business and national boundaries. The nature of high-performance learning experiences, especially in virtual environments, is akin to that of "jamming" sessions we find in jazz music. As defined by Wikipedia "jamming" is what happens during a "jam session"^{iv}. A jam session is "A jam session is a musical act where musicians gather and play (or "jam") without extensive preparation or predefined arrangements." The point being that while in a virtual learning experience extensive preparation does occur regarding the context, the actual interactions between participants are inspired by the dynamics of their relationships, and moderated in an improvised manner due to their unpredictable nature. The feeling of shared values, the leverage of passions, the sharing of perception, and finally the establishment of a team with living system characteristics as a whole becomes the goal for enabling a business impact capability of the effort.

The delivery of such learning experiences is commonly termed "e-learning" and managed based upon traditional learning approaches that have developed over the centuries. Essentially based upon a classroom and teacher paradigm, we find that e-learning as it is commonly encountered, at best provides a multi-medial translation of these paradigms into a technology supported virtual environment.

High-performance e-learning spaces^v:

1. *Ensure that knowledge is created by all participants.*
2. *Move knowledge from origin to the point of highest need.*
3. *Encourage collaboration for mutual benefit.*

While the efficiency of such learning experiences is significantly improved, from a traditional ROI perspective, over traditional educational approaches, the overall effectiveness remains in line or even somewhat lower when reviewed from a learner perspective. For organizations operating in increasingly complex and volatile global contexts, with a high dependency on knowledge workers, and with the need to tightly control spending, this situation is of course not acceptable.

This three-part article explores how such learning experiences can be designed, developed, and managed in a manner that effectiveness can be improved as significantly as financial ROI. From a practitioner perspective the following critical questions are addressed:

1. How can virtual learning costs be minimized?
2. How can the value generated for the learner through virtual learning be maximized?
3. How can the value generated for the business through virtual learning be maximized?
4. How can resistance to virtual learning measures be managed more successfully?

The reason for these questions being of primary concern presently are^{vi}:

- Even though the financial ROI of e-learning can be impressive, the break-even points are shifting more and more into the distance due to the increasing cost of packaged learning management systems.
- The business impact of e-learning significantly lags behind that of traditional learning engagements.
- Training departments are being forced into the role of information technology specialist when selecting learning management and delivery solutions.
- Technology developments are rapidly providing new demands and solutions at ever decreasing costs.

Redefining goals

The first step in this exploration is to re-define the goal of any virtual learning experience. A common approach to assessing and measuring virtual value creation is that of focussing on training effectiveness. Assessing training effectiveness often entails using the four-level model developed by Donald Kirkpatrick^{vii}. According to this model, four levels of effectiveness can be discerned:

E-learning performance metrics today MUST be defined based upon the IMPACT ON BUSINESS SYSTEMS

- **Level 1. Evaluation - Reactions:** Measuring the reaction of the students and their perception of the teaching activity attended.
- **Level 2. Evaluation - Learning:** Measuring the improvement in competency, ability, and capacity, skills which have been acquired due to the training activities.
- **Level 3. Evaluation - Transfer:** This level measures the transfer that has occurred in learners' behaviour due to the training program.
- **Level 4. Evaluation- Results:** Level four attempts to assess training in terms of business results.

The difficulty most often encountered when using this assessment structure, is that while the first two levels can quite comfortably be achieved under supervision of a training department, levels 3 and 4 depend heavily upon the involvement of those who will benefit from the knowledge gained by a participant and fund the effort (the *Knowledge Beneficiary*). It is this stakeholder of the

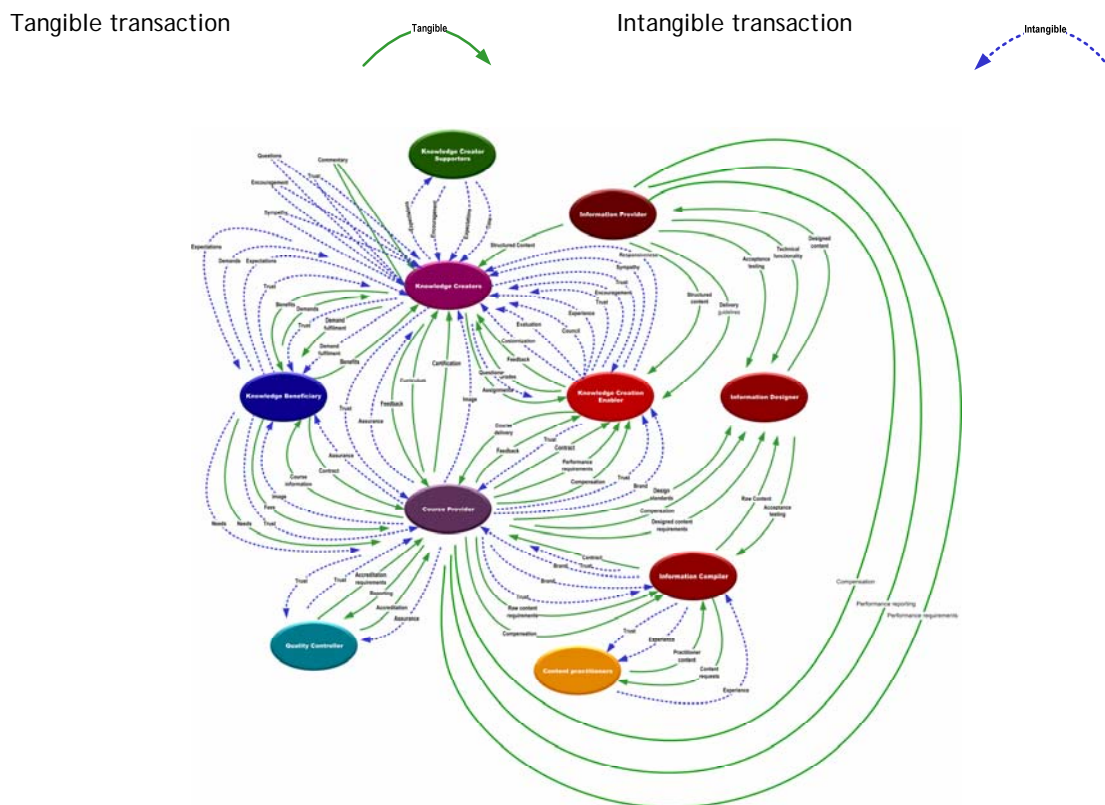
virtual learning that determines the effectiveness of virtual learning, and they are also the stakeholder who is usually the least involved in this. Assuming therefore that the *Knowledge Beneficiary* has to date eluded successful integration into virtual learning concepts, it is well worth the reflection what other critical roles are involved. If we have missed one key player, have we perhaps missed others?

When we focus on the knowledge that is intended to be generated and put to use for value generation, we quickly recognize that the participant of such an experience (i.e. the student), is in fact a *Knowledge Creator*. Assuming that knowledge is always tacit, then the deliverer (i.e. the teacher) in fact becomes a *Knowledge Creation Enabler*. Based upon this redefinition we can then proceed to mapping the value network of a virtual learning experience.

Fundamental to this is the understanding that we are not enabling value generation within static environments. "Value" needs to be understood as the knowledge flow^{viii} required by the *Knowledge Beneficiary*, while the environment is just as volatile and complex as that of the *Knowledge Beneficiary's* market. It is this environment that we consider the "value network"^{ix} of the virtual learning experience. Dealing with this hence places high demands on the approaches and tools used for enabling value creation - all is in a state of flux as discussed by Heraklit.

Heraklit was a pre-Socratic philosopher, living in the fifth century BC, who taught, that all things were in a state of flux, constantly changing. He is principally remembered for his doctrine that "all is flux" and the observation that you can never step into the same river twice, for the river, being a collection of particles of water, is always changing. Although he believed that all was flux he also believed there was a "logos" or cosmic principle of order underlying it. (Knowledge has a lot of similarity to Heraklit's river; it is always changing and the pace of change varies, it is unique (even if similar) at every place and point in time. Stable patterns do develop similar to the "standing wave" before a rock peeking out of the flowing river. Gaining knowledge, a process we call "learning," is therefore something inherently dynamic, volatile, personal and individual.

When we explore the value network that the virtual learning experience "lives" within, we identify participants and transactions. Participants are the roles assumed in the network, and transactions are negotiated tangible and intangible exchanges between the participants. The figure below^x shows the fundamental structure of a high performing virtual learning space based upon practitioner experience^{xi}.



Roles in the business system

The high-performance e-learning space consists of a number of core roles that interact for value creation. These roles are: *Knowledge Creators*, *Knowledge Creation Enablers*, *Knowledge Creator Supporters*, the *Knowledge Beneficiary*, the *Course Provider*, the *Quality Controller*, the *Information Compiler*, *Content Practitioners*, the *Information Designer*, and the *Information Provider*.

Knowledge Creators are those individuals who, either singly or in groups, attend a virtual education event in order to create knowledge they require to fulfil their needs. They are not passive recipients of information in a classical classroom setting with the teacher at the front of many rows of students at their desks, but intensively and actively engage with content, their peers, the *Knowledge Beneficiary*, the *Knowledge Creator Supporters*, and the *Knowledge Creation Enablers* in order to (co-) create the knowledge desired and to generate the intended value. The *Information Provider* supports this effort by providing the optimally structured content via a suitable technical platform. The paradigm shift faced primarily by the *Knowledge Creators* is moving from passive content consumption for a single stakeholder (the "teacher") to pro-active content (co-) creation for multiple stakeholders.

The *Knowledge Beneficiary* is those individuals and organizations that intend to benefit from the value generated from the knowledge created by the *Knowledge Creators* and promised by the *Course Provider*. This role is often assumed by organizations that need to have staff with new knowledge to perform certain tasks, although we do find that more and more *Knowledge Creators* are in fact creating knowledge for their own benefit, i.e. to prepare for switching roles, organizations, or careers. The role of *Knowledge Beneficiary* can be assumed by *Knowledge Creators* as well therefore. Important to note in this respect is that while the *Knowledge Beneficiary* communicates needs to the *Course Provider*, the process for this needs identification is quite varied.

Knowledge Creation Enablers are those individuals who facilitate the virtual education event. Their primary task is to facilitate the learning curve and experience of the *Knowledge Creators* in accordance with requirements of the *Course Provider*. It is therefore the goal of the Knowledge Creation Enabler to ensure that the needs of the *Knowledge Beneficiary* are fulfilled as expected. Of significant importance in this respect is the intangible side of the relationship to the *Knowledge Creators* since this acts as the catalyst for knowledge creation. The *Knowledge Creation Enabler* also helps facilitate the relationship of the *Knowledge Creators* to the *Course Provider* and the *Knowledge Creator Supporters*.

Knowledge Creator Supporters are those individuals who enable the *Knowledge Creators* to fulfil the needs of the *Knowledge Beneficiary*. In some environments this could be the family that encourages the *Knowledge Creator* to master the challenges being faced, that provides the time for this to be accomplished and the context for celebration when goals are reached. In other contexts it may be the organization by which the *Knowledge Creator* is employed or which is served by them. The *Knowledge Creator Supporters* are also heavily involved in the motivation and expectation setting of the *Knowledge Creator*.

The *Course Provider* is the organization that is responsible for designing, developing, hosting, marketing, selling and managing the delivery of knowledge creation opportunities to the *Knowledge Creators*. The *Course Provider* ensures that the requirements of the *Quality Controller* are met in the delivery of knowledge creation opportunities to the *Knowledge Creators*, both directly and indirectly through the performance management of the *Knowledge Creation Enabler* and the content development/delivery process. It is the *Course Provider* that contracts formally with the *Knowledge Beneficiary*.

The *Quality Controller* is a local, regional, national, international or global organization that audits and reviews the performance of the *Course Provider* in accordance with common standards for delivering knowledge creation opportunities to the *Knowledge Creators*. In many cases the *Quality Controller* also heavily influences the brand of the *Course Provider* and hence the relationship between the *Course Provider* and the *Knowledge Beneficiary*.

The *Information Compiler* is tasked by the *Course Provider* to collect, collate, and prepare practitioner content and experience based upon the *Knowledge Beneficiary* needs. This role is usually filled by an individual who is an experienced practitioner with close ties to the *Content Practitioner* community, and who also has an understanding of the aptitudes of *Knowledge Creators*. The main challenge for the *Information Compiler* is to turn tacit knowledge of *Content Practitioners* into information that can be structured for delivery to the *Knowledge Creators*. The

Information Compiler can only gain access to this information based upon the trust given to the *Content Practitioners* and provides the raw content to the *Information Designer*

Content Practitioners represent the community of individuals who are experts in the development and use of the concepts, skills, and stories of the particular course to be designed for the course provider. These *Content Practitioners* continuously work with the relevant information and it is their knowledge that the *Knowledge Beneficiary* is interested in attaining. This community is usually a virtual one and publishes information about its activities in a multitude of environments.

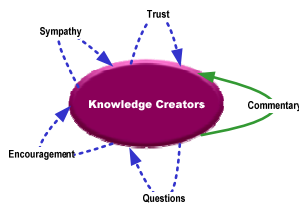
The *Information Designer* is tasked to transform the raw content provided by the *Information Compiler* into a form suitable for presenting to the *Knowledge Beneficiary* via the platforms provided by the *Information Provider*. This content can be in various multi-medial forms and is structured in such a manner that an iterative learning track is provided to the *Knowledge Beneficiary*. The *Information Designer* ensures hereby that the latest standards of content design as advocated by the course provider are maintained.

The *Information Provider* is in essence the provider of the technical platforms associated with delivering the course information to the *Knowledge Creator*. This role hence provides the variety of technical channels between course content and the *Knowledge Creator*, while it also provides the collaborative infrastructure needed to enable the relationship between the *Knowledge Creator*, *Knowledge Creator Enabler*, and *Course Provider*.

The key relationships

Based upon the definition of the high-performance e-learning space and its roles above, we now turn to exploring the four key pair relationships involved:

Knowledge Creator <> Knowledge Creator

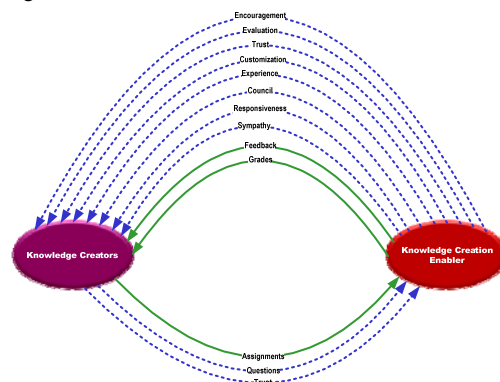


Knowledge Creators must be self-motivated to gain an "A".

Knowledge Creators in a virtual learning context form a learning community of experts in various fields. Usually the members of the community are peers that provide each other with significant commentary, encouragement and questions. Due to being faced by the same learning challenges, there is a lot of sympathy for each other and also trust in the value of the commentary received as the group goes through a learning process. This is also a space where new relationships are built, knowledge creation happens in its own right, and jamming effects emerge that to a great extent are self-organizing. The learning group becomes an energized environment of peer support and rapport. Indeed it is this effect that leads to the most effective and sustainable knowledge creation

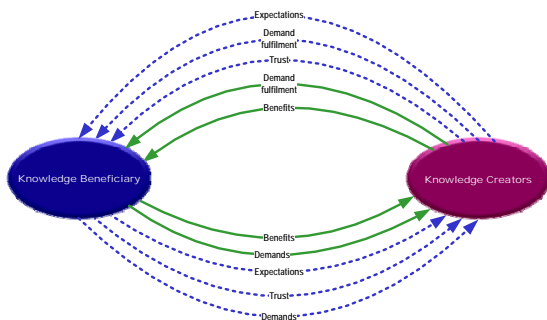
Knowledge Creator <> Knowledge Creation Enabler

The *Knowledge Creator Enabler* makes sure that everyone wants to earn an "A" and is responsible for them achieving this.



The relationship between the *Knowledge Creators* and the *Knowledge Creation Enabler* is perhaps the most underestimated and least well managed in classical virtual learning experiences. Traditionally the *Knowledge Creation Enabler* is a "teacher" who has content expertise and ensures that this content is consumed by the student. In high performing virtual learning spaces however the focus is shifted to enabling the dynamics of the *Knowledge Creators* community (see above) and facilitating the knowledge creation process for the *Knowledge Beneficiary*. As we can see this relationship is heavily influenced by intangible exchanges and in particular by the ability of the *Knowledge Creation Enabler* to respect, trust and sympathize with the needs of the *Knowledge Creators*. The desire of the *Knowledge Creators* to complete the requirements is taken for granted and they are supported in this process through pro-active identification of learning issues and linkage to the needs of the *Knowledge Beneficiary*

Knowledge Creator <> Knowledge Beneficiary

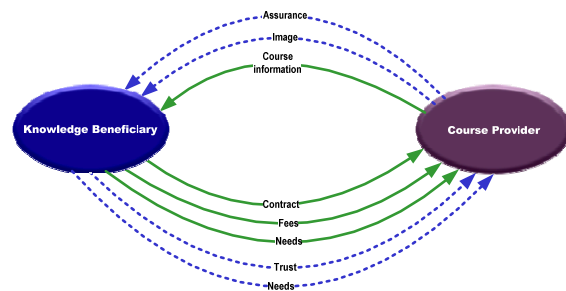


The *Knowledge Creators* must create that knowledge demanded by the *Knowledge Beneficiary* in order to generate ROI of the effort.

The *Knowledge Creators* engages in the virtual learning experiences due to the needs of the *Knowledge Beneficiary*, who is also the payor for the experience. These roles, although they converge at times, are the basis for ensuring the business impact of newly created knowledge. Only if the knowledge created by the *Knowledge Creators* fulfils the demands of the *Knowledge Beneficiary*, can effective business impact be created.

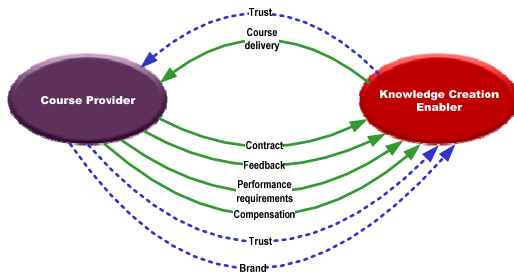
Knowledge Beneficiary <> Course Provider

Knowledge Beneficiaries must select Course Providers based upon their access to course contact with potential business impact.



The *Course Provider* is tasked to provide the learning content for the virtual learning experience that will allow for the creation of knowledge demanded by the *Knowledge Beneficiary* from the *Knowledge Creators*. The *Course Provider* must fully understand these needs of the *Knowledge Beneficiary*, who therefore must have defined these accurately to ensure business impact. Critical in this respect is the assurance that this will occur. Traditionally this is accomplished by the *Course Provider* in association with the *Quality Controller*, although this role does not have a direct contact to the needs definition process of the *Knowledge Beneficiary*.

Knowledge Creation Enabler <> Course Provider

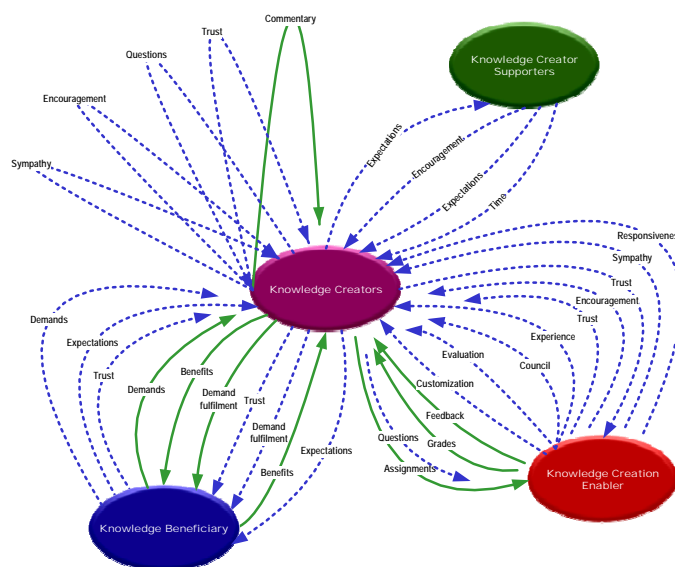


The selection and performance management of Knowledge Creation Enablers must be based upon generated business impact.

Finally, the relationship between the *Knowledge Creation Enabler* and the *Course Provider* must be understood. The *Knowledge Creation Enabler* acts as the catalyst for turning course content into business impact within a volatile and dynamic community of *Knowledge Creators*. The primary demand is hence a facilitative one within living systems, rather than as an agent of the *Course Provider* and *Quality Controller* as is seen in traditional education systems. This is where the trust provided by the *Course Provider* becomes critical, which is again related to the brand of the *Course Provider* and the compensation. Compensation of *Knowledge Creation Enablers* in high performance virtual learning spaces must hence be linked to the facilitative performance and business impact enabled, versus fulfilment of *Quality Controller* requirements.

A question of purpose

Based upon the value network defined, we need to explore the core purpose it has designed itself to fulfil. Every system has a "real" purpose it works to fulfil. We need to be aware that this purpose may differ from the purpose expected, desired, or demanded by any single stakeholder or sub-group thereof. Indeed, sometimes the espoused purpose of a value network is actually quite different from the purpose that is revealed by its activities. As we have seen above, knowledge creation is something unique in every context, and hence when designing, developing, and deploying such value networks we need to reflect carefully why it really exists and indeed which other value networks it may server - each node is a gateway to other value networks. In general however, and in the interest of practicality a close look needs to be taken at the needs of the *Knowledge Creator*, the *Knowledge Beneficiary*, the *Knowledge Creator Supporters*, and the *Knowledge Creation Enabler*. It is these four roles that could be considered as the customers of a more condensed value network as presented below:



It is however always important to ask what is missing or who has not been included. In traditional settings the roles of the *Knowledge Creation Enabler* and the *Knowledge Beneficiary* are often overlooked since examining the latter demands a higher accountability of the *Course Provider* for value generation, and examining the former opens up the discussion whether it is the content or behavioural knowledge of a facilitator that is more critical and should be the performance basis.

Overall though the value network presented here can be understood as a model for designing, developing, and implementing e-learning measures with a high impact on business performance. The key factors associated with this are:

- The participants all consider themselves to be part of a single living system that is serving the purpose of improving business impact. Value gained by one participant therefore extends to other participants in a way that accrues value for the value network as a whole.
- There is a high level of trust among participants.
- All participants share common measures for evaluating overall value network performance (see next section for details).
- Every interaction is used consciously to create value and build relationships.
- All participants understand their interdependence.
- Every participant is both contributing and receiving value from the network as a whole. None gain value at the expense of another.
- There is a consistent pattern of reciprocity of exchanges is an indicator of healthy value flows and whole-system optimization.
- There are no bottlenecks, constraints, or instability in the flow of value.
- Every action either triggers another transaction or has an internal impact on the participant who is the recipient.
- Individuals will regularly participate in a number of other roles.
- There are no disconnects between the role people think they play and the role that is actually represented by their interactions.
- The "heartbeat" of the network is formed by those with the greatest passion for the business value created - the Knowledge Beneficiary, the Knowledge Creator, and the Knowledge Creator Enabler.

Towards new measures for learning^{xiii}

Based upon the reflections up to this point the need for a redefinition of performance metrics becomes apparent. If the focus lies on enabling the value network to deliver what Kirkpatrick describes as level 3 and level 4 benefits, then we indeed need to reframe the indicators of relevance.

While the third article will explore the specific indicators of relevance there are some fundamental questions we can apply to the value network in order to determine whether it is functioning with relative efficiency:

To what extent do the participants:

- keep each other sufficiently informed?
- proactively share their expertise and competence as needed?
- continuously bring in new competencies and build expertise?
- are open in their communication and respect each others' different perspectives?
- continuously come up with innovative solutions?
- continuously and naturally share competencies, know-how and expertise?
- build their own competencies/expertise through collaboration?
- need each other?
- help each other to learn the skills they need?

The performance of the e-learning value network is directly related to the capability of its facilitator (The *Knowledge Creation Enabler*).

Finally, through application of value and social network analysis principles the following key indicators^{xiii} can be pointed towards based upon a current state assessment of the relevant e-learning value network:

The performance level of a business system can be measured!^{xiv}

- The relationship between tangible and intangible transactions actually lived
- The perceived transactional value
- The network density
- The reciprocity in the network
- The geodesic distance in the network
- The degree centrality^{xv}
- The betweenness centrality
- The Krackhardt GTD measures^{xvi}

Taking the above two perspectives together the basis is set for the definition of new performance and hence management measures of e-learning efforts. Critical to remember though is that since we are dealing with living systems, complexity is a firm factor in our efforts, which demands distance from command-and-control efforts, and a movement towards an exploratory learning focus.

Summary

Designing, developing, and deploying high-performance e-learning spaces must be focused on fast and cost-effective impact on business systems. Traditional e-learning performance metrics are not suited for the "e-" context of virtually collaboration knowledge workers and organizations.

To ensure that e-learning spaces deliver high-performance their value network must be facilitated in a manner akin to the "jamming" of musicians, where relationships become the focus of interest and a living system evolves. This facilitation demand calls for a redefinition of many present roles, processes and performance measures.

Foresight

In the next article the focus will be placed on the key scenarios that the here presented value network must deliver upon. In essence these can be considered as the processes within the value network.

The key scenarios in high-performance virtual learning spaces are:

- Needs analysis
- Content design and development
- Content provisioning
- Knowledge validation
- Knowledge creation
- Knowledge application

Once these have been defined a number of case studies will be presented and contrasted against the benchmark being set in this article.

Based upon an exploration of these scenarios the third article will focus on the specific performance measures required to build and maintain e-learning spaces where the impact is significant and fast, including the relevant measures that must be taken to create such spaces.

Author

Dr. Oliver Schwabe has been involved with virtual learning since 2000. In this timeframe he has personally designed, delivered and deployed a wide variety of academic and professional distance learning courses for a wide variety of non-profit, private, and commercial organizations and to approximately 200 different students monthly, i.e. approximately 2400 students yearly. Based upon these experiences the mechanics of creating high-performing virtual learning groups have become increasingly clear and have led to the identification of recurring patterns of exchanges between stakeholders that can be considered as fundamental to business value generation through

virtual learning. His company, Eurofocus International Consultants Ltd, www.euro-focus.com, is among others specialized in using advance e-learning approaches for effective e-learning approaches.

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ⁱⁱ http://en.wikipedia.org/wiki/Social_Network_Analysis.

ⁱⁱⁱ Amidon, Debra M., *The Innovation SuperHighway: Harnessing Intellectual Capital for Sustainable Collaborative Advantage*, 2003.

^{iv} http://en.wikipedia.org/wiki/Jam_session.

^v Based upon "Laws of Knowledge Dynamics," Amidon, Debra M., Formica, Piero, and Mercier-Laurent, Eunika (Eds.) (2006), *Knowledge Economics: Principles, Practices and Policies*, Tartu University Press (Estonia) [ISBN 9985-56-939-3].

^{vi} See also Allee, V. 1997. *The Knowledge Evolution: Expanding Organizational Intelligence*. Boston: Butterworth-Heinemann.

^{vii} Kirkpatrick, D.L. (1994). *Evaluating Training Programs: The Four Levels*. San Francisco, CA: Berrett-Koehler.

^{viii} "A Knowledge-based Theory of the Firm to guide Strategy Formulation." Awarded the *Journal of Intellectual Capital* Highly Commended Paper Award for 2001, <http://www.sveiby.com/articles/KnowledgeTheoryofFirm.htm>.

^{ix} Allee, V. 2002. *The Future of Knowledge Increasing Prosperity through Value Networks*. Boston: Butterworth-Heinemann.

^x Images created using GenSis™ for ValueNet Works™ www.alleevaluenetworks.com, MS Excel 2003, and MS Visio 2003.

^{xi} Mapping in accordance with Allee, V. 2005. Fieldbook Consultation Guides. www.alleevaluenetworks.com.

^{xii} "Measure for Learning!" (Sveiby 2004). Keynote IC Congress, Helsinki.
<http://www.sveiby.com/articles/measuretolearn.pdf>.

^{xiii} Partially based upon Hanneman, Robert A. and Mark Riddle, 2005. *Introduction to social network methods*. Riverside, CA: University of California, Riverside (published in digital form at <http://faculty.ucr.edu/~hanneman/>).

^{xiv} See Borgatti, S.P., Everett, M.G., and Freeman, L.C., 2002. *Ucinet for Windows: Software for Social Network Analysis*. Cambridge, Mass: *Analytic Technologies*, and GenSis™ for value network creation and analysis, Germany, Eurofocus International Consultants Ltd., 2006.

^{xv} Freeman LC. "Centrality in social networks I: conceptual clarification." *Social Networks*. 1979;1:215-239.

^{xvi} McGrath C, Krackhardt D. "Network conditions for organizational change." *J Appl Behav Sci*. 2003;39:324-336.