

---

## Editorial

---

### Shantha Liyanage

Business Faculty, Deans Unit,  
University of Technology Sydney,  
NSW 2109, Australia  
Email: shantha.liyanage@uts.edu.au

**Biographical notes:** Shantha Liyanage is the Editor-in-Chief of *IJLC*, Professorial Fellow of the University of Technology Sydney and Senior Researcher of Department of Education and Communities.

*This editorial is dedicated to our colleague Max Boisot who departed to eternity and always lives in our memory.*

---

### Learning and change in the 21st century

Learning takes the centre stage of global connectivity, deregulation, decentralisation and associated changes that impact on world's economy. Many nations face the fall outs of rapid changes in modes of production, outcomes and distribution of resources that entail use of different comparative advantages of nations. A faster pace of scientific and technological change is a contributor to wild fluctuations of fortune of nations. China and India have caught at least part of the digital transformation wave and adding value to production in networked society. While some nations have languished in growth and development, largely due to the inept learning and knowledge transformation, others have surged ahead capturing economic and market opportunities.

In a flux of continuous change, learning becomes the pivotal contributor to organisational growth and survival. In the 21st century economy, information technology together with knowledge-based interventions altered the boundaries of nations and workplaces. How we perform businesses and how we exploit global trade and markets are vastly different to the way we did this a few decades ago. We are now able to conduct all our financial and banking transactions at the touch of a button in our mobile phones. This has not only given us more flexibility for operations, but also enormous scope for productivity gains and organisational change. How we perform day to day activities and business operations are changing considerably making it necessary to undertake continuous learning and managing change.

The rapid transformations of economic and social activities are the direct result of complex exchanges and linkages of data, information and knowledge. Learning occurs at various levels with exchange of knowledge and information. Learning transformations can happen in wider context engaging individuals in social context. In Wenger's (2000) terminology such transformation and transitions are described as 'Social Learning System' that comprises networks of communities of practice or in terms of Boisot et al. (2011) 'the Social Learning Cycle'. Both these constructs address continuous processes of learning and engagement for knowledge generation, articulation, dissemination, internalisation and application that triggers change.

Change impacts not only on some discrete business functions but throughout the entire value chain of a business. Knowledge affects all facets of organisational routines that include people, processes, behaviours and organisational cultures and operations.

Since the launch of the *International Journal of Learning and Change (IJLC)* in 1995, it has contributed to deepening our theoretical understanding and empirical underpinnings of learning and how learning impacts on change and its process. Though these two constructs are significantly important for individuals and organisations, they were not well understood within contemporary production systems. The journal aimed to fill this gap. It provides a venue for scholars who are interested in exploring intrinsic connections among learning, change and change management processes for growth and sustainable development.

*IJLC* consistently upholds the highest standards of scholarly thoroughness by aiming to break new ground in our understanding of deeper learning processes that are sustainable and also relevant to modern organisations. While exploring connections among knowledge, learning styles, learning content, it also shed light on how such learning is relevant to ensuing change processes that intimately correspond with economic and social transformations.

Learning is interpreted broadly to accommodate all facets of human cognition and behaviour that lead to knowing and doing. It is an age old tradition that engages individuals from their early childhood through a lifelong learning. We regard learning as a powerful construct in new knowledge creation and dissemination. Effective learning processes impact on growth, sustainability and development of organisations. Learning decisively assists individuals and organisations to steer through complex situations and prepare them for adopting better business routines.

The journal also places a strong emphasis on impacts of scientific and technological changes and how innovation, creativity and entrepreneurship play a central role in both learning and resultant changes. Capturing opportunities involve continuous renewals of knowledge bases through learning and engagement.

Although learning has been around for centuries, most organisations tend not to pay sufficient attention to learning. Few organisations adopt well-articulated learning strategies and have internal mechanisms to implement them. Learning strategies prepare organisations to deal with rapid changes that take place in global markets.

Learning also empowers individuals and prepares them to capture new opportunities that are useful to maintain competitiveness and innovative readiness. Learning intersects closely with organisational readiness to embrace new knowledge development across the entire value chain of the organisations and build capacity to deal with complex and varied social interactions and economic imperatives.

Generally, individuals are expected to know and self-learn while employed in organisations. Only a few organisations have actively sought to develop learning strategies (Szulanski and Amin, 2001). Take for example the rise, fall and meteoric rise of Apple Computer Inc, which is renowned for its innovative capacity. Apple has recognised the importance of learning by appointing a Vice President, who is responsible for Apple's learning programme and implementing strategy for learning and education across all Apple technologies, products, marketing, channels, and partnerships. Apple Computing confirms the need for employees to learn throughout the entire value chain.

Apart from the economic and productivity agenda, *IJLC* deals with all facets of changes related to physical and natural environments. Today, we can no longer ignore the perils of intended and unintended consequences of human action and the power of natural forces. In 2011 alone, several major natural disasters were recorded with some descending on us at epic proportions as seen among the populations in Christchurch, New Zealand, Tohoku and Fukushima Nuclear Plant disasters in Japan, Burma and so on. These are constant reminders of the limits of our learning and knowledge. They make us reconsider ‘what we know’ and ‘what we do not know’.

Learning is a continuous process that demands renewed action and responses. Learning prepares us to deal with unexpected and generates new knowledge to face new situations.

### *The purpose and objectives of IJLC*

*IJLC* covers a broad range of topics that underpin learning and change, contributing to our understanding of how learning responds to changes in the social processes. The journal caters to a diverse research community by drawing from both qualitative and quantitative researchers in natural, physical and social sciences. A majority of articles received to date have primarily used qualitative methodologies while several articles have also used mixed methodologies. A relatively small number used quantitative methodologies to assemble evidence. The journal also covers interventions and practices that are applicable to industry and organisations.

All these articles have advanced the field of management by developing theories and models useful for our understanding of learning and change processes. The journal continues to encourage researchers to submit findings on practical aspects and applications of learning and change that are central to improving economy, society and our understanding of the world around us.

One of the primary objectives of the journal has been to advance our knowledge and understanding of individual and organisational learning at different stages of organisational and individual development. The journal has attracted scholarly articles that deal with formation of social capital and network relationships that influence the transformation of organisation’s intellectual capital.

The past issues of the journal have included topics that tend to deepen our knowledge of individual and organisational learning. Among these topics were: how learning takes place in the cognitive space of individuals; the ways of learning situated and embedded in organisations; how learning and change contributes to organisational development; and pathways of learning for productivity enhancement and growth.

Since its inception, the journal has produced special issues on specific topics that are current and relevant to modern organisations. For example, Professor Britta Gammelgaard from Copenhagen Business School compiled a special issue on ‘Supply Chain Learning and Change’; Dr Maureen Benson-Rea and Professor Michel D. Myers on ‘Qualitative Methods and the Dynamics of Change’; Dr Annick Janson and Professor Alan Lind on ‘Leadership, Learning and Collective Capacity Building’; Mary Feeney and Professor Barry Bozeman on ‘Mentoring: A Tool for Social and Human Capital Learning’; Dr Stig Johannessen on ‘Complexity, Leadership and Change Processes’; Professor Jetta Frost, Professor Helmut Kasper and Rick Vogel on ‘Knowledge Management in

Research Intensive Organisations’; Dr Anders Ortenblad on ‘Flexible Learning Organisation’; Professor S. Manikutty on ‘Learning, Learning Organisation and the Global Enterprise’; Fernando Alberto Freitas Ferreira and Mario Muñoz Organero on ‘Timeless Changes in Education’; and Professor Peter Murray on ‘Integrating Learning Behaviour with Change Context’. Some other special issues covering learning in medical education are in the making.

These special issues extend our understanding of learning and change into new spheres of knowledge and experience. The articles in these special issues raised methodological, theoretical and practical issues relevant to learning processes, governance, leadership, educational, sociological and management oriented learning and change. Several papers have contributed to new management models and theoretical contributions that elucidate how learning and change are used to improve organisation’s business routines.

*IJLC*, like all other international scholarly journals, employs a rigorous peer review process. All papers go through a double blind review process engaging a minimum of two referees, and in some cases three or more referees to ensure quality and accuracy. While most of the contributions to the journal are of an academic nature and research driven, the journal also receives articles from industry practitioners who have used rigorous research methodologies to capture real-life situations and case examples.

The quality of papers is the hallmark of the journal and is central to promoting reliable knowledge. While allowing a broad coverage of topics, it is always a challenging task to consistently maintain academic excellence and quality of contributions. The journal has received articles from wider geographical regions, extending from Japan to North and South America. It is an exhaustive task for the editorial board to maintain high quality of contributions and standards as required by the journal’s editorial office and the publishing house. In some cases, the editorial process has taken more time than what normally editors and authors would like to see. Beside the academic concerns, editors have to deal with varying issues of language, expression, clarity and consistency of articles.

*IJLC* pays careful attention to figures, inscriptions and diagrams. The illustrations should convey true meanings and form an integral part of the argument.

The common problems of submitted articles are the lack of clarity, structure and logical flow of the argument. While most researchers have used valid research methodology, some of the papers have been rejected due to poor research methodology and the lack of novel contributions to the topic investigated. All papers are expected to contribute to new knowledge and advance the existing practices and interventions.

The audience of *IJLC* is broad and they include both public and private sector clients. The primary target of the journal is the academics and scholars and the managers in private and public sector organisations. Naturally, the academics and research students constitute the bulk of the client base.

*IJLC* is well supported by a competent manager of journal, dedicated editorial members and efficient production staff who are diligent and committed individuals.

## **21st century learning challenge – the central problems of learning and change**

Given the journal’s interest in promoting learning and change in relation to the global innovation system, it is important to consider how learning will take place in changing societies. What are the central problems of learning and change?

Learning is regarded as a cognitive process that systematises the procedural memory (Cohen and Bacdayan, 1994; Santrock, 2001). Learning is no longer confined to individuals who learn, memorise and recall. It also extends to collective entities such as organisations, networks, societies and information systems and technologies embedded in artefacts such as human-robot interactions.

Learning is also procedural. During the learning processes, individuals and organisations have to continuously renew their knowledge systems in order to respond to impending changes and deal with those changes. Some learning processes take a relatively long time. These processes are subjected to rigorous assessment and testing regimes. Learning to become a doctor, legal professional, musician or artist takes different procedures and skills learnt in different epistemic groups. Those who master the craft teach their disciples the tricks of the trade imparting tacit knowledge.

The traditional modes of teaching and learning expect that all learners need to focus on taxonomy of educational objectives that address a body of knowledge and skills. Such skills often relate to literacy and numeracy. While some of these learning processes are often practised in a classroom setting, the role of the traditional teacher has shifted from instructional to supporting and mentoring roles. The relationship between the teacher and student has altered in contemporary learning systems by incorporating intrapersonal, natural ability and environmental or ecological learning styles. The teacher increasingly plays the role of a mentor and a facilitator of learning rather than an instructor or a pathfinder. With the dawning of the digital era, when information flow is rapid, affordable and freely accessible, the students have the opportunity to self-learn and share learning experiences as well as disseminate knowledge at a much faster rate. The World Wide Web (www) and the electronic media have simply changed the way we learn and change.

One of the challenges faced by modern organisations is to understand how different nations and societies deal with learning and change. China and India are in the forefront of change. Ensuing dynamic changes have enormous impacts on the global economy and social structures. Some nations have simply embarked on rapid changes without due considerations to societal and environmental impacts. Learning provides us an in-depth knowledge of dealing with uncertainty so that continuity of social order and knowledge of our cultural systems can be continued unabated. *IJLC* is interested in articles about the impacts of change on societal and cultural values, especially on indigenous cultures and societies.

The primary focus of learning is to create new knowledge, new insights and perspectives and skills. In the modern age, learning goes beyond a new set of knowledge and skills to include behavioural change among individuals and social organisation. Today, we are connected globally to deal with different nations, cultures and religions. The intricacy of knowing and valuing other cultures and societies are increasingly becoming important for learning at a faster rate in order to reduce social tensions and increasing social disorders including terrorism.

Scientific and technological advances are the fundamental drivers of change impacting on all individuals, organisations and societies. Learning compartmentalised to specific epistemic groups who are the gate keepers of what we accept as an effective practice in a given professional group. Learning is a human activity that forms a web of relationships reaffirming what we know and what we do not know. These relationships ramify as the change progresses over time connecting individuals and organisations.

Economic, social and cultural changes can be either incremental or radical. Although learning can be a slow process it requires cognitive adaptations, self-reflections and knowledge absorptions. Learning process must address the new ways of knowing and doing. With continuous technological change, this can be strenuous and the learning needs to be an integral part of the change process.

Institutions devoted to learning provide a particular focus on learning and knowledge creation. Through systematic development of curriculum and pedagogy, learning organisations maintain the rigour of learning and contribute to systematic transformations of economic and social systems. This however is not a linear process. Individuals often have to learn-by-doing and engaging. Creativity and aptitude are the hallmark of individual and organisational learning capabilities. When learning is not institutionalised, knowledge tends to disintegrate and recede.

Recent knowledge of learning has increased our awareness of the importance of using effective language, communication patterns and the vital role of our memory and cognition. These issues are becoming important from a medical and neurological perspective. For example, Levine (2008) illustrates the importance of unravelling genes that revive our recollections and our ability to learn. More research is necessary in this relatively under researched area of learning and change.

The process of learning is perhaps the most popular area of investigation in learning and change. Several scholarly articles have explored this dimension. Some regard learning to be an interactive process that consists of action and reflection (Kolb, 1984). Learning processes can be unpredictable and erratic.

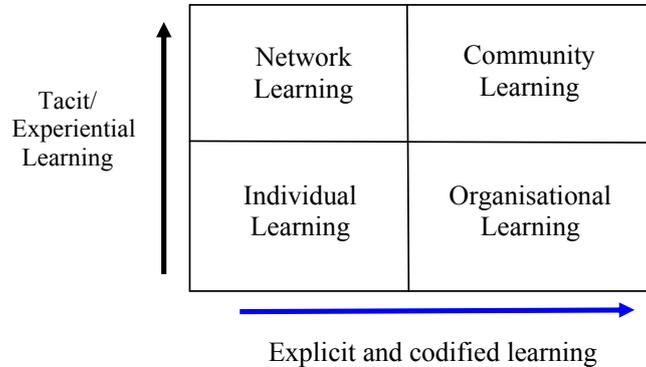
Experiential learning by trial and error is about repositioning our capacity to know how and when to judge reliability of action and responses. Learning provides us cumulative capabilities to act in anticipation or in response to solving a particular set of problems.

Advances in learning styles have also altered the mode of delivery. In the medical and engineering professions, for example, simulations are becoming common occurrence. Simulation-based medical training of professionals is conducted to reduce medical errors and shift the mode of learning from the apprenticeship style to real-time interactive learning. This has challenged the common model of medical training from 'Do one, see one, teach one' to an extended model of simulations and real-time engagement through video links that replace the use of laboratory animals and real patients to learn "what works".

Even in a time of information and knowledge explosion, the common knowledge and skills cannot be taken for granted. In some areas, the age old practices are deeply rooted and have not changed much. Learning has also an ethical dimension. Learning is a right of all citizens and should not be confined to a privileged few. In developing policies and governance mechanism, learning and education is still a public good. Ethical and moral issues have to be taken into account. As we prepare for major economic and social changes in 21st century, individuals and organisations must be willing to adopt open systems of learning.

We learn as individuals, groups and in organisations (see Figure 1 for domains of learning). *JLC* has explored these areas by commissioning several special issues. Much needs to be done in relation to service organisations where learning may take place in somewhat different ways. This is because service organisations such as finance, information technology, insurance and superannuation firms use fast changing technologies and deal with complex systems. In all forms of learning, there must be some sort of structure, definite procedures for verification, benchmarking and feedback and action and reflection needed.

**Figure 1** The domains of learning (see online version for colours)



21st century learning is about dealing with knowledge and complexity. Mastery of knowledge, knowledge relations and responsiveness to change are determinants of an organisation's capacity to grow and sustain its competitiveness. Although an organisation may develop a high capacity to generate knowledge, it may possess low capacity to learn and absorb new knowledge. As a result, the organisation will be unable to sustain growth. In particular, as an organisation become large, it may develop an atrophy to learn fast and confront learning difficulties.

One of the key challenges for managers in 21st century organisations is the acquisition of knowledge in a timely manner. Knowledge without learning provides a limited meaning and applications.

Learning at an advanced stage of human life consists of formal processes such as theory building, formulating hypothesis, experimentation and verification of repeatability and reliability. In addition, learning institutes a culture for knowledge exchanges and the creation of knowledge capital for social and economic gains. Learning-by-doing or using (Vincenti, 1990) and the ability to experiment and learn-by-experimentation (Nelson, 2003) are some of these processes. These processes are an integral part of organisational development process.

Learning can support or weaken the existing and traditional learning systems. It may initiate processes that replace familiar with unknown. The reluctance to embrace unlearning and learning new things is a human trait. During the process of change, learning needs to take place within individuals as well as throughout the organisational systems. Some changes such as the introduction of new laws or legislations can swiftly alter the way we do things. For example, recent Tsunamis in Asia and Japan have altered perceptions and patterns of coastal living with the introduction of environmental legislations impacting on buildings, buffer zones and reserves to deal with possible reoccurrence of those events and prepare us for worse case scenarios. When change occurs, responding to the change requires new learning and adaptations.

### *Three learning spheres in 21st century*

We could identify at least three interrelated learning spheres that are discussed below.

*Personalised learning*

As individuals, our learning is highly structured. Such learning often takes place with a selected approach that is responsive to individual needs, competencies and requirements. They will entail learning how to learn, assessment of learning through competencies tests and bench marking learning through mentoring and learning support. Personalised learning contributes to a great good of public knowledge and the synthesis of knowledge. Knowledge synthesis and continuous learning also involve individuals acquiring skills, developing technological expertise, knowing the how and why processes, and understanding the information and knowledge needed to develop individual's competencies. Knowledge can only grow and develop when there is an effective action (Burton-Jones, 1999; Liyanage and Boixot, 2011). Individuals have to put their learning into practice in order to derive economic and social benefits of such learning.

Learning is a key process that facilitates a firm's knowledge to be developed and extended to its business routines (Zollo and Winter, 2002). Personalised knowledge becomes collective efforts in this translation. Different firms display varying degrees of capabilities in assimilating experience and knowledge competencies of individuals. These capabilities are also recognised as a firm's absorptive capacity – a firm's capacity to value, assimilate, and apply new knowledge of individuals. Among different individuals, knowledge accumulation is a cumulative process. Our prior knowledge helps us to build new knowledge. Learning is an important step towards building the absorptive capacity of individuals and in organisations (Cohen and Levinthal, 1990).

Learning processes assist the internalisation of both new and externally situated knowledge competencies and improves the thought and behavioural quality of individuals as well as organisations, which are collection of individuals. Individuals' knowledge base and their constant learning need to be actively directed rather than passively drifted. Individual's action and behaviours can improve through specific knowledge applications and deployments. An individual seeks likely individuals and organisations which stimulate learning and active engagement that sparks an individual's creativity.

The link between learning and knowledge is therefore important as these two components unite to provide the requisite organisational competencies and business routines, which are based on various types of interactions, knowledge configurations, and the ability to implement and deal with necessary change management processes.

*Organisational learning*

Organisational knowledge is described as the process through which organisational members develop the ability to discover when organisational changes are required and what changes can be undertaken which believe will succeed (Duncan and Weiss, 1979). Organisational knowledge is the collective sum of individual learning. Organisational learning forms a dynamic knowledge system that grows when shared (Quinn et al., 1996). Organisational learning is therefore considered as a process of improving organisational action through better knowledge and understanding (Garvin, 2000). Learning within organisations requires a broad set of skills that enables the organisation to deal with internally and externally situated knowledge.

The role of learning in the organisational knowledge process can be analysed from situated organisational and knowledge transformation perspectives. Several researchers have examined learning from a situated organisational learning perspective. This perspective views knowledge to be embedded in individuals. It also explores the connections between individuals, social groups, communities and artefacts (Winter, 2000; Edmondson, 2002). Knowledge is often situated within certain social and organisational contexts and embodied in certain practices (Lave and Wagner, 1991). Learning is the process that untangles such knowledge and provides a common knowledge base that can be utilised, shared and further developed. However, the intrinsic value of learning and knowledge depends on a firm's capacity to recognise existing knowledge and absorb new knowledge. Most managers are preoccupied with acquisition of new knowledge and have paid little or no attention to recognise existing knowledge and related learning processes.

Quite often different firms differentiate their capacity to value knowledge through varying processes of learning. Such learning processes allow the capacity and speed in which knowledge can be packaged and repackaged in an organisation. Learning processes are also determined by the similarities among routines and knowledge bases of firms (Lane and Lubatkin, 1998). Two firms, say for example, dealing with the development of cardiac pumps, may adopt entirely different routines that differentiate knowledge and learning processes.

Learning is also a conduit that transmits knowledge from internal and external resources. The proponents of the situated organisational learning argue that learning is an ongoing activity carried out by individuals. Knowledge created by such a learning process is embedded in both the minds of individual actors and the actors' environment, which becomes structured as a result of ongoing activity (Nidumolu et al., 2001). The situated organisational learning perspective also lends support to the continuous transformation of knowledge. From a knowledge absorption viewpoint, other important aspects of learning are the negotiations, interactions, and collaborations that take place, and which are facilitated by knowledge interchanges (Millar et al., 1997). Such interchanges allow the mixing and aligning of contextually situated knowledge with a firm's internal structures of knowledge. Knowledge interchanges can be achieved through contextually appropriate interaction and activity.

### *Community learning*

Learning processes, like knowledge, require management and guided development. They also involve a process of knowledge absorption within individuals and organisations. Such an absorptive capacity determines a firm's level of knowledge and learning integration. Several intervening processes between learning and knowledge creation and absorption have been identified (Boden, 1990; Ruggles, 1998). They include: the identification of the stock and structure of knowledge available to the organisation, so knowledge gaps can be made known and remedied; the decontextualisation of knowledge into explicit forms so as to enable its communication and transmission; the synthesis and assimilation of knowledge interchanges by a multitude of users; the facilitation of knowledge generation and production; and the synthesis, adaptation, and transformation of knowledge to generate novel and creative uses.

Some of these processes support continuous learning whereas others involve incremental learning through the accumulation of various types of knowledge. The changes to the rate and direction of knowledge are therefore influenced by such learning

processes. Learning is induced by changing the various components of knowledge. In this way, knowledge typologies can be varied according to information and data (explicit forms), thereby allowing a variety of learning possibilities. Learning also assists the translation of tacit knowledge or experiential knowledge into related business routines. For example, an apprentice working with a master craftsman learns by observing (with or without interaction) and imitative behaviour through trial and error. Learning can therefore be seen as the progressive unlocking of the tacit components of knowledge and the internalisation of such knowledge.

Learning processes involve continuous interactions among various stakeholders. Lundvall (1992) classified learning as a predominantly interactive process. He argued that learning was therefore socially embedded and could not be understood without accounting for its institutional and cultural contexts. Irrespective of the situated or interactive components of knowledge, learning allows the transition from generalised capability building to specific capability building. The interchange of knowledge operates by transmitting contextually situated knowledge into a firm's internal structures of knowledge.

Organisations utilise learning in a combination of knowledge translations including:

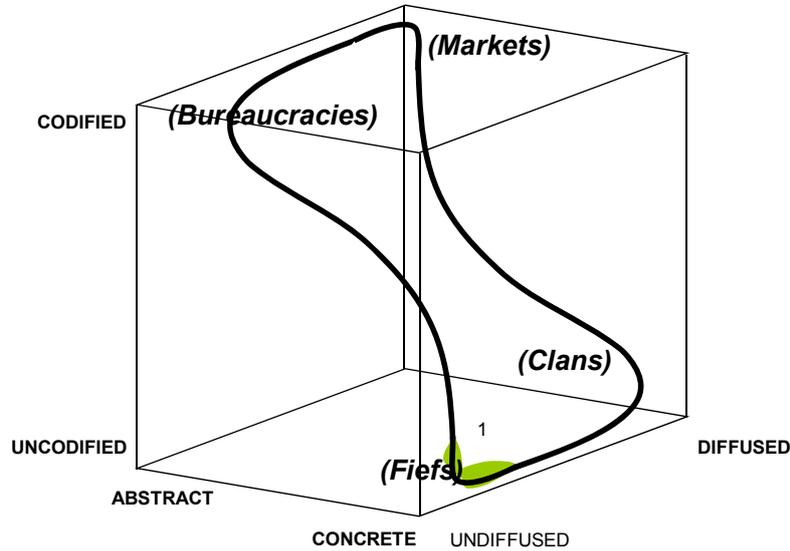
- (a) Learning as a response to acquiring compulsory skills and knowledge gains at no cost to the organisation – this type of learning occurs when individuals are self-motivated to acquire skills and knowledge that are essential to do their job well and often such learning occurs through experience and engagement.
- (b) Learning to achieve a particular personal or organisational strategy – this may connect closely with corporate or business strategies of organisations and needs to realise at a cost to the organisation; such learning is directed and focused to meet specific strategies.
- (c) Learning to achieve high level of change that serves a particular economic purpose of the organisation which is carried out at a cost to the organisation. The purpose of such learning is to empower employees with high levels of cognitive capability which improves competitiveness of the organisation.
- (d) Learning to achieve greater personal satisfaction and sense of accomplishment of individuals which can take place at relatively low or no cost to an organisation and can take place in an adaptive learning environment using network and web-based technology.

Learning also assists in building dynamic capabilities to synthesise and reconfigure resources available to the organisations (Wernerfelt, 1984; Barney, 1991; Conner and Prahalad, 1996).

#### *A model for learning in community*

The community learning synergises the creation of new knowledge and transforming existing knowledge to instil change. One of conceptual models advanced by Max Boixot (1998) allows the interchange of learning and knowledge through what is known as I-Space (Figure 2).

**Figure 2** The Social Learning Cycle (SLC) activates cultural and institutional structures (Liyanage and Boixot, 2011) (see online version for colours)



In the I-Space, knowledge workers engage in those activities that move them some distance through the Social Learning Cycle (SLC) and get them to a particular location in the space from which they can prepare their next move in the cycle.

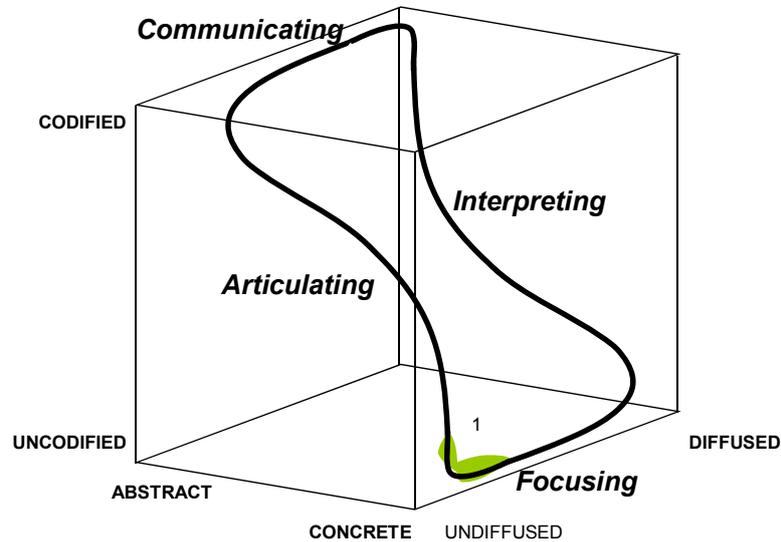
The concept of Social learning Cycle (SLC) enables the management of knowledge across the organisation and to strengthen knowledge management capabilities across different epistemic communities (also known as community of practice) within and outside the organisation.

The Social Learning Cycle is particularly useful for large service sector public organisations. The challenge for such organisations is to put in place the appropriate processes, structures, incentives that encourage people to be exploratory, innovative and creative.

In the case of learning, the process could start with an abstract and codified knowledge available and moves towards the un-codified and concrete particulars of a real world that can never be fully specified and planned. Useful knowledge generates, integrates and diffuses, along any part of the I-Space at any point on an SLC. A dynamic knowledge capability in the army amounted to an ability to manage the SLC as a whole.

As with all learning, the process is never ending. Leading this learning process helps both: (a) to reduce uncertainty (codification and abstraction); and (b) to absorb uncertainty (impacting, absorption, scanning). The first gives direction and yields knowledge, and subsequently facilitates knowledge diffusion through effective communication and learning. The second set of tasks that allow better interpretation and communication of knowledge concept in order to make sense that helps to reduce anxiety.

**Figure 3** Translation of knowledge, learning and change in the Social Learning Cycle (see online version for colours)



Using social learning cycle concepts, individuals and organisations can locate them in learning and knowledge processes by acquiring the following areas:

- identify the potential problems and inhibitors to knowledge sharing and structuring
- clarify and prioritise knowledge management issues in the organisation
- develop risk management and disciplined approach to deal with complex knowledge management problems
- provide guided methods to improve better knowledge management and social learning processes
- provide useful inputs to future planning and formulation of defence strategies.

Social learning cycle provides a learning framework to translate learning as an iterative process that provides both a meaning and a modality to focus, interpret, articulate and communicate knowledge and information.

### *Directed learning*

Learning also allows the integration of human creativity with new intellectual formation (Amabile, 1996). Creativity is central to instigate the change process by way of creative destruction and disruptive innovations. How can we learn how to innovate or how can we learn about innovation cultures of organisation that assists them to be successful than their competitors?

Technological diffusion often takes place with learning through networks and deliberate methods of commercialisation of learning processes in organisations. Several authors have cited that network learning and collaborative learning take place through several organised processes in organisations (Malecki, 1997).

Recent research shows that firms use all these forms of knowledge; however, direct learning is the most commonly practised form advocated by firms. Near learning refers to the immediate learning environment, which deals with compensating for immediate knowledge gaps. Near learning processes attempt to understand current systems and the operating of such systems. Learning by interaction is largely grounded in personal networks.

In directed learning spheres, collaborative learning is an important way of synthesising useful knowledge. Researches have found that firms may also learn through deliberate mechanisms of collaboration, partnerships and alliances (Inkpen, 1998). Especially, intra-organisational learning often takes place with the maturity of a particular knowledge and as a result of technology transfers (Crossan and Inkpen, 1994). Learning is strong among the business units of some firms, in cases where knowledge was passed on from one project to another, and also in instances where collective action was needed for specific knowledge applications.

Learning enables us to reflect on the reliability of knowledge. Some regard not all knowledge is useful (Russell, 1948) and could slowly assimilate this knowledge into our daily routines. We are accustomed to such knowledge through continuous learning and absorbing. Once learning is institutionalised, it becomes second nature to us, like paddling a bicycle, we do it even without thinking about it. In this way various cognitions are accumulated through learning processes. Bruner (1990) suggested two different modes of cognition: information or paradigmatic mode and the narrative mode.

Knowledge and learning are inseparable and is the centre piece of change. As we prepare to embrace the modern concepts of a knowledge society and move leaps and bounds forward with technological change underpinning advances in knowledge, we also encounter greater uncertainty. We are reminded to adjust to change that impact our jobs, satisfying customers and increasing corporate profits and keeping the shareholders happy. These are not easy tasks.

The conception of knowledge, learning and change is not a new subject. Knowledge in particular takes us back to ancient times, as far back as we can trace the human civilisation. From ancient religions, agrarian practices, industrial marvels, to information revolution, knowledge has been a central theme of human endeavour. People choose to pursue knowledge as a passion and in the process have contributed to the human existence and civilisation in many different ways.

### **Learning as organisational routines**

In learning processes, Zollo and Winter (2002) have referred to three learning mechanisms that are central to generating a firm's capabilities. Experience accumulation, knowledge articulation and knowledge codification process are these mechanisms that contribute to continuous building and shaping of dynamic capabilities and capacities in organisations. These capabilities often renewed with the changes to institutional routines, implementation of new technologies and the renewal of human capital composition. A fluid mix of various combinations of knowledge and their interrelatedness determine the knowledge generating absorptive capacity (Cohen and Levinthal, 1990).

Although individuals have the requisite knowledge and have shared this collective knowledge, there is very little both individual and collective knowledge can do, unless we are able to leverage this knowledge and put it into action. There are even greater fundamental problems to the notion of collective knowledge, learning and intellectual capital formation.

Existing knowledge capital possesses certain characteristics, which are based on the different products, processes, and services offered by the organisation. Learning shapes according to our exposure to such products, processes and services. As Coombs and Hull (1998) explain there is a limit to which a firm can modify the content and scope of this knowledge base.

### Future challenges

Since the inception, the journal has continued its journey through a substantive terrain. It needs to explore new boundaries and learning spheres compatible with 21st century learning and pedagogy.

The next obvious stage is to cover new geographic territories and reach the learning communities that have not covered adequately to build theory and practice. The journal has recruited editorial members to focus on Scandinavia, Europe and Asia to do just this. This will assist in bringing a new dimension of knowledge and learning in a wide range of topics that continuously examine the intricate connections between learning and change.

We hope the scholars will continue to contribute to this important area of human activity.

### References

- Amabile, T.M. (1996) *Creativity in Context*, Westview Press, Colorado.
- Barney, J.B. (1991) 'Firm resources and sustained competitive advantage', *Journal of Management*, Vol. 17, No. 1, pp.99–120.
- Boden, M. (1990) *The Creative Mind: Myths and Mechanisms*, Weidenfeld and Nicholson, London.
- Boixot, M. (1998) *Knowledge Assets, Securing Competitive Advantage in Information Economy*, Oxford University Press, Oxford.
- Boixot, M., Nordberg, M., Said, Y. and Bertrand, N. (2011) *Collision and Collaboration*, Oxford University Press, Oxford.
- Bruner, J.S. (1990) *Acts of Meaning*, Harvard University Press, Cambridge, MA.
- Burton-Jones, A. (1999) *Knowledge Capitalism*, Oxford University Press, Oxford, NY.
- Conner, K. and Prahalad, C.K. (1996) 'A resource-based theory of the firm: knowledge and opportunism', *Organization Science*, Vol. 7, No. 5, pp.477–501.
- Cohen, M. and Bacdayan, P. (1994) 'Organizational routines are stored as procedural memory: evidence from a laboratory study', *Organizational Science*, Vol. 5, pp.554–568.
- Cohen, W.D. and Levinthal, D.A. (1990) 'Absorptive capacity: a new perspective on learning and innovation', *Administrative Science Quarterly*, Vol. 35, No. 1, pp.128–152.
- Coombs, R. and Hull, R. (1998) 'Knowledge management practices and path-dependency in innovation', *Research Policy*, Vol. 27, pp.237–253.
- Crossan, M.M. and Inkpen, A.C. (1994) 'Promise and reality of learning through alliances', *The International Executive*, Vol. 36, No. 3, pp.263–273.
- Garvin, D. (2000) *Learning in Action*, Harvard Business School Press, Boston, MA.
- Duncan, R. and Weiss, A. (1979) 'Organisational learning: implications for organisational design', *Research in Organisational Behaviour*, Vol. 1, pp.75–123.
- Edmondson, A.C. (2002) 'The local and variegated nature of learning in organizations: a group-level perspective', *Organization Science*, Vol. 13, No. 2, pp.128–146.

- Inkpen, A. (1998) 'Learning, knowledge acquisition, and strategic alliances', *European Management Journal*, Vol. 16, No. 2, pp.223–229.
- Kolb, D.A. (1984) *Experiential Learning: Experience as the Source of Learning and Development*, Prentice-Hall, Englewood Cliffs, NJ.
- Lane, P.J. and Lubatkin, M.H. (1998) 'Relative absorptive capacity and interorganizational learning', *Strategic Management Journal*, Vol. 19, No. 5, pp.461–477.
- Lave, J. and Wenger, E. (1991) *Situated Learning: Legitimate Peripheral Participation*, Cambridge University Press, Cambridge.
- Levine, A. (2008) 'Unmasking memory genes', *Scientific American*, June/July, pp.49–51.
- Liyanage, S. and Boixot, M. (2011) 'Leadership challenge', in Boixot, M. and Nordberg, M. (Eds): *Collisions and Collaborations, CERN/ATLAS*, Oxford University Press, London.
- Lundvall, B. (Ed.) (1992) *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*, Pinter, London.
- Malecki, E.J. (1997) *Technology and Economic Development: The Dynamics of Local, Regional, and National Change*, Longman Publishers, Harlow, Essex.
- Millar, J., Demaind, A. and Quintas, P. (1997) 'Trans-organizational innovation: a framework for research', *Technology Analysis & Strategic Management*, Vol. 9, No. 4, pp.399–418.
- Nelson, R.R. (2003) 'On the uneven evolution of know-how', *Research Policy*, Vol. 32, pp.909–922.
- Nidumolu, S.R., Subramaniam, M. and Aldrich, A. (2001) 'Situated learning and the situated knowledge web: exploring the ground beneath knowledge management', *Journal of Management Information Systems*, Vol. 18, No. 1, pp.115–151.
- Quinn, J.B., Anderson, P. and Finkelstein, S. (1996) 'Leveraging intellect', *Academy of Management Executive*, Vol. 10, No. 3, pp.7–27.
- Ruggles, R. (1998) 'The state of the notion: knowledge management in practice', *California Management Review*, Vol. 40, No. 3, pp.80–89.
- Russell, B. (1948) *Human Knowledge – Its Scope and Limits*, George Allen and Unwin Ltd.
- Santrock, J.W. (2001) *Educational Psychology*, McGraw-Hill, New York.
- Szulanski, G. and Amin, K. (2001) 'Learning to make strategy: balancing discipline and imagination', *Long Range Planning*, Vol. 34, pp.537–556.
- Vincenti, W.G. (1990) *What Engineers Know and How They Know It: Analytical Studies from Aeronautical History*, Johns Hopkins University Press, Baltimore, MD.
- Wenger, E. (2000) 'Communities of practice and social learning systems', *Organization*, Vol. 7, No. 2, pp.225–246.
- Wernerfelt, B. (1984) 'A resource-based view of the firm', *Strategic Management Journal*, Vol. 5, pp.171–180.
- Winter, S.G. (2000) 'The satisficing principle in capability learning', *Strategic Management Journal*, Vol. 21, Nos. 10/11, pp.981–996.
- Zollo, M. and Winter, S.G. (2002) 'Deliberate learning and the evolution of dynamic capabilities', *Organization Science*, Vol. 13, No. 3, pp.339–351.