# ROLE OF PERFORMANCE IMPROVEMENT AND INSTRUCTIONAL DESIGN IN STRATEGIC HUMAN RESOURCE MANAGEMENT

**Rajat Arora**

*Student, Organization Learning and Performance, Western Michigan University, United States.*
*Email: rajat.arora@wmich.edu*

**Abstract** *The use of instructional design theory and approaches has been dramatically increased in the field of education. This profession has made tremendous improvement in solving real world authentic problems. Different types of instructional approaches are very effective in designing curriculum depending upon the skills, knowledge, and task requirements of courses. However, there is less literature available in the area of "use of instructional design and performance improvement in strategic HRM". Instructional design is a very innovative field and it can do wonders in the areas of complex problem solving, knowledge construction, and performing real authentic tasks in the business scenarios, if the principles, approaches and theories of instructional design with performance improvement models are adopted in a right context and with alignment of organisation task requirements. This paper is an attempt to strengthen the role of human resource as a strategic business partner through insinuating and integrating the fields of human performance improvement and instructional design in a business context.*

*We call the 21st century the era of strategic human resources. There are so many convoluted HR roles and verbiages in the field of training and development, learning at the workplace, talent management, and compensation. There are abundance of books written on the role of human resources a strategic business partner and strategic HRM (Human Resource Management) theories like universalistic perspective (Dewar & Werbel, 1979), which proposed a framework of best practices under SHRM, contingency theory (Butler, Ferris, & Napier, 1991), which described different HR policies and approaches for different organisational contexts, and the configurational approach, which defines a holistic theory of SHRM. Notwithstanding the burgeoning field of SHRM research, the field has been criticised for lacking a solid theoretical foundation that help strategic HRM to truly define the meaning of being strategic and being a strategic business partner in the firm.*

**Keywords:** *Instructional Design, Performance Improvement*

## Introduction

This paper describes human resource as a strategic business partner, not as talent management, training, or people management systems. The paper is solely based on the role of the human resource profession as a problem solver, internal consultant, performance improvement, performance technology, and learning and instructional design support system. Being a strategic partner means that a profession must contribute directly to some of these strategic variables of business: technological progress, product/market breadth, product innovation, quality, active marketing, market share, rate of organisation growth, operational efficiency, production efficiency, etc. There are so many variables that play a critical part depending upon the organisation/business context. Top management has perceived the importance of HR to be a strategic partner, but what is the role of HR in the burgeoning of firm's major strategic variables?

In today's highly competitive environment, companies' traditional sources of competitive advantage, such as technology, patents, and economies of scale have been weakened by globalisation and other environmental changes (Ulrich & Lake, 1990). In this scenario it is very important to build the internal world of organisation and inevitable to perform in any kind of environment. Managers are consequently turning towards the human resource management to help implement competitive strategy (Ulrich,1997) and in return they will get the complicated system and pleonasms from the field of human resources, for example talent management system, training programs, and sophisticated practices, etc. All these interventions take a decade to implement and most of these failed due to a lack of understanding of functional managers in those areas and a lack of understanding of HR people in sensing the need of the hour for business. Rather than focusing on individual HR practice, scholars of strategic human resource management (SHRM) have turned their attention to the

bundle of mutually reinforcing and synergies HR practices that facilitate employee commitment and involvement (MacDuffie,1995). I am not against the HRM practices in the field of talent management, career development, and training, etc. The point is that the success of these interventions depends upon the functional managers and line manager's indulgence and how they are practicing in real life. Sometimes this seems impossible because these managers are already fueled with so much work pressure that they hardly can think of anything new to learn that is out of their work camaraderie. So the question is why don't we as HRM professionals speak the language of functional managers/line managers and shift our perspective towards performance improvement? This would be where we apply the tools, models from the field of performance, needs assessment, instructional design, and consulting principles to improve the performance of the workplace in the field of production, manufacturing, marketing, sales, quality, and innovation. HPI (human performance improvement) is a movement with a straightforward mission: one that is closely tied to the vision "namely to achieve, through people, increasingly successful accomplishments, directly tied to organisational goals, that are valued by all stakeholders, including those who perform, their managers, their peers, the organisation as a whole, shareholders, customers, regulatory agencies and even society itself" (Stolovitch & Beresford, 2012, p. 135). To speak the language of business and make HRM a truly strategic business partner that will have a direct impact on the key strategic variables, we need to inculcate performance improvement and instructional design as one of the core field under the HR profession. ISD (instructional system design) is a systemic approach; it provides a clearly defined and documented pathway for designing, developing, implementing, and evaluating learning- one that was replicable and transferable and that had a demonstrable record of success in terms of performance (Stolovitch & Beresford, 2012). Hence two questions remain unanswered: what makes SHRM to be an authentic strategic partner of business? How can HR directly impact the bottom line? I will answer these questions in this paper.

Let's consider the below scenarios, almost every human resource professional who claims to be apart of organisation's strategic team will definitely be surrounded by the following situations:

1. V.P of Sales: We're rolling out a brand new system. I want all our sales people up to speed on it asap, no matter what country they're in. When can we get a class planned and scheduled? We'll need to put instructors on the road.
2. Chief Safety Officer: Why are the safety accidents rates in all our manufacturing units are high, in spite of hiring professional safety officers and implementing induction safety training for all employees?
3. Director HR: Unsatisfactory is the only way I would describe the way they handle the appraisals. We've trained them. We've exhorted them. Heck, we even redesigned the forms.
4. CEO: Everything is changing here, and we need a management cadre that is flex, adaptive, able to handle boom times and bust. I can't tell you what it will be, just that they must be ready and smart - for whatever.
5. Learning and Development department: We have trained them well, we have adopted right communication strategy and conduct lot of open house meeting to let our people understand the change and adopt the new skills but still it looks like a vicious circle, is there anyone who can analyse that what went wrong?
6. Chief Learning Officer: I want to put a planning initiative in place. I want to meet with our key people to come together on direction for the future.
7. Manufacturing Head: If they don't change the old way of working, we need to make some strict calls. I don't want to retrain them anymore.
8. Some of the problems involve key customers inquiries that have not been responded to by the sales team (over 24 hours old), complaints from key customers, forecast stock out of any of the key products, abandon rate at call center - calls gives up, key customer complaints not resolved on first call, number of refund givens, high average time from customers inquiry to sales team response, unresolved complaints listed by sales person/sales team, number of dead goods on installation, order entry error rate.

We are all well aware about the growing rate of information; there is a profound skills and knowledge gap consistently engendering in our workforce. The roles that we played in last few years are getting more complex and the solutions we had that proved successful in the past is no more feasible now. Perplexing needs of skills and chunk of knowledge required to perform on the job that learning can no longer be provided as set of events. We need to understand the role of learning and performance and how this can happen simultaneously at the workplace. Every task has the cycle of learning to performance for example rolling out a new product, cost reduction, new strategic development, production and operational efficiency, product innovation, exploring new markets, increasing customer satisfaction, etc. No matter what we name it and what is performed by humans at the workplace everything follows certain patterns of learning to perform. Some tasks come from objectivism, the school of learning where repetitions and efficiency matter, some tasks require cognitive support, and some come from constructivism theory of learning. The role of HR is to analyse and provide the right learning as well as instructional

and knowledge support on the job, at the workplace, where actual cycle of performance take place.

## Literature Review

There is a plethora of literature available on strategic HRM authors have define this field perspicaciously (Appelbaum, Bailey, T., Berg, P., & Kalleberg, 2000; Lepak, Liao, Chung, & Harden, 2006; Leiblein, 2011). The emphasis of research work has been more on the alignment of HRM practices like compensation, total rewards, talent management interventions, and people management systems with organisation strategies. Boxall (1996) defines SHRM as the interface between HRM and strategic management. Baird and Meshoulam (1988) assert that "Business objectives are accomplished when human resource practices, procedures and systems are developed and implemented based on organisational needs, that is, when a strategic perspective to human resource management is adopted." Empirical studies in strategic HRM talk about HR practices amalgamation of high performance work systems (Becker and Huselid, 1998) and high involvement HR system (Guthrie, 2001). The behavioural perspective in strategic HRM (Jackson, Schuler, & Rivero, 1989; Schuler & Jackson, 1987) proposes different roles of behaviours required for different strategies for firms to pursue. Through these definitions we formed a conclusion that the scope of strategic HRM is only limited upto the alignment of practices with the organisation strategies, what about key strategic variables that influence the organisation growth and development? How does SHRM influence and directly involve in the improvement of key strategic variables like technological progress, product innovation, control system, long term financial growth, operational efficiency, profitability etc.? We can bluntly say that HRM doesn't have the capability to be directly involved in the strategic improvement of the firm or the only role we as HRM professionals can play is supporting the business strategy through alignment of HR interventions with the strategies of business. What about the performance improvement interventions in the field of production

**Table 1: Summary of the Various HR Studies (after 2000)**

| Author | HR Systems | Mediators | Outcomes |
|---|---|---|---|
| Chuang and Liao (2010) | HPWS (High performance work system) | Climate of concern for customers and employees | -Service performance<br>- Helping behaviour |
| Chang, Gong, Way, andJia (2013) | Flexibility – oriented HR practices | Absorptive capacity | -Firms Innovation.<br>- Market responsiveness |
| Guthrie (2001) | High involvement HR practices | Turnover | Productivity |
| Gong, Law, Chang, and Xin (2009) | Performance – and maintenance oriented HR systems | Managers commitment | Global firms performance. |
| Wright and Gardner (2003) | Combined HR practices | Organisational commitment | -Operational performance<br>- Expense<br>- Profits |
| Park, Mitsuhashi, Fey, andBjörkman (2003) | Synergies system of HR practices | Employee skills<br>Employee attitudes<br>Employee motivation | Firm performance |
| Kizilos, Cummings, and Cummings (2013) | High involvement HR practices | OCB | Sales performance |
| McClean and Collins (2011) | High commitment HR practices | Collective effort | Perceived firms performance |
| Vandenberg, Richardson, and Eastman(1999) | High involvement work processes | Involvement | Organisational effectiveness |
| Wood, Van Veldhoven, Croon, and de Menezes(2012) | High involvement HR practices | Individual –level job satisfaction | Organisational performance |
| Wei and Lau (2010) | HPWS | Adaptive capability | Financial performance |
| Collins and Smith (2006) | Commitment –based HR practices | Social climate, knowledge exchange | -Sale growth<br>-Revenue from new product /services |
| Bhattacharya, Gibson, and Doty(2005) | HPWS | HR flexibility | -Profit per employee<br>-Sales per employee<br>-Return on sale<br>-Cost of sales |

efficiency, operational efficiency, strategic development and implementation, reduction of cost etc.? practitioners in the field of human performance improvement and instructional design has exhibited how human resource profession can directly impact the strategic variables of the firm, please refer ISPI(International Society for performance improvement), PI journal " the journal deals with all types of interventions and all phases of the HPT(human performance technology) process, the common theme is performance improvement practice or technique that is supported by research or germane theory. Different tasks performed by various sub-systems in organisation have learning and knowledge needs and how fast that knowledge is processed and the support ensured at the right time, at the right place, will determine the organisation's efficiency. There is no research that talks about the role of strategic HRM as performance improvement, leading interventions in the field of strategic development and implementation, reducing cost, or increasing profits with the help of learning and instructional design systems. We did some literature review (after 2000), to find out what the latest literature in the field of SHRM speaks about the role of human resources. Each study depicts about some of the innovative HR practices and how they help in supporting the business in different areas for example financial performance, productivity, and organisation performance (Table 1). However, researchers generally agree that HR practices do not lead directly to organisational performance and have started examining the intermediate mechanisms to understand how HR practices affect organisation performance (e.g., Authur, Ferris, Berkson, Kaplan, Harrell-Cook, & Frink, 1998; Takeuchi, Lepak, Wang, & Takeuchi, 2007; Wright, Dunford, & Snell, 2001). Then we saw each of the HR practices, it's applicability in authentic organisation settings and who is responsible in driving these practices at workplace. The success of these practices is highly based on how the functional managers think about these practices and how willing they are in truly driving them. Most of the time these sophisticated interventions failed because of lack of alignment between business needs and interventions required to fulfill those needs at production and business unit level. In reality the HR people at the workplace who invest most of their time in making employees understand how these practices will influence organisational performance. Researchers have contended (High performance work systems) HPWS could contribute to organisational performance if the system elicits employees to behave in a manner supportive of organisational goals (e.g., Ostroff & Bowen, 2000). This is also one of the problems that makes human performance improvement field differentiate from other HR practices because instead of meddling with the HR practices on functional managers, HPI focuses on systemic means – from analysis of the performance gap through performance analysis and needs assessment models, design and development of appropriate, economical, feasible, and organisationally acceptable interventions that is embedded in the workplace technology. The epitome is the integration of these interventions with the instructional design field that supports in making the life and work of people easier through learning technology and performance systems.

We found the resource based view of the firm Barney (1991) interested; it emphases how the human capital that firms possess or can acquire can generate above average rent in terms of improved firm performance. The resource-based view helps us to make our point more pellucid. The role of human capital firm is to improve firm performance by doing the work with greater efficiency and this only can be done by developing performance systems that help people in reducing the gap of learning to performance. This all can be possible through the implementation of performance technology, knowledge support tools, and instructional system into the workplace technology. Through this way, a firm can generate above average rent in terms of improve performance.

Delery and Doty (1996) promulgate that different strategies demands different HR practices and organisations with 'greater congruence between their HR strategies and their (business) strategies should enjoy superior performance. They identified these three HRM perspectives:

1. **The universalistic perspective:** Some HR practices are better than others and all organisations should adopt these best practices. There is a universal relationship between individual 'best' practices and firm performance.
2. **The contingency perspective:** To be effective, an organisation's HR policies must be consistent with organisation strategic variables.
3. **The configurational perspective:** This is a holistic approach that emphasizes the importance of the *pattern* of HR practices and is concerned with how this pattern of independent variables is related to the dependent variable of organisational performance.

Snell and Dean (1992) noted that human capital adds value to the firm because of enhanced potential for productivity provided by higher levels of relevant knowledge and skills. In other words, the higher the level of knowledge, skills, and abilities of employees, the more potential human capital has for impacting firm performance. In this knowledge base human beings cannot beat the speed of information and knowledge instead of having higher skills, knowledge, and abilities, I would say the accurate learning, knowledge and performance support system align with the task requirements of the firm, embedded into the organisation process and concomitant with the right skill sets will result in high potential impact on organisation performance.

"Successful performance initiatives involve partnerships characterised by concerted efforts that are installed and nurtured close to where the work gets done. The executive

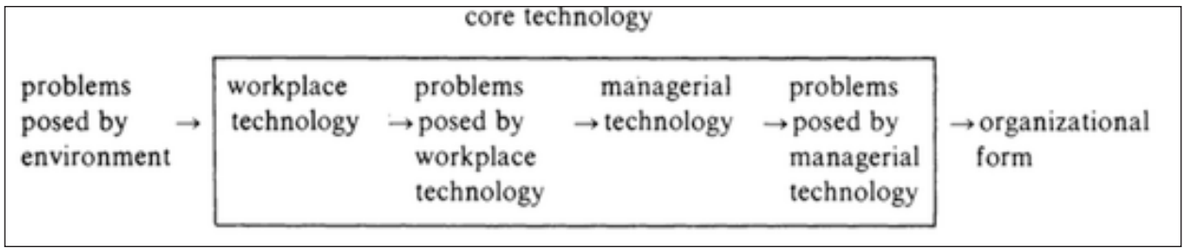


**Fig. 1: Core Technological Differences**

who wishes to toss people over to training to get them ready for the new global initiative or who expects human resources to change the forms so that appraisals will improve is headed for disappointment."Allison Rossett (2009)

Performance technology, instructional design, and learning support systems have more to offer. These fields penetrate on the key strategic issues of business and help firms to solve the most challenging problems. We need to understand that to be a real strategic partner, the human resource profession needs to move on from being an organizer and support function to performance improvement and learning and performance system design experts. The future of human resource stems from understanding organisation task requirements and designing internal world of organisation that is capable to imbibe any kind of task at various sub-system levels.

The paper has three parts: first is "external environment" that defines different organisation context or strategic typology at the macro level; the second part includes internal world of organisation and sub-system theory; and the third part talk about how to build an internal world of organisation through learning, instructional approaches, and performance support systems.

The objective of part 1 is to focus on the external environment of the organisation and develop a theory on how organisations differentiate themselves in terms of strategies, products, markets, workplace technology, task and skills, and knowledge requirements. The objective of the second part is to focus on how the external environment influences the role of different sub-systems in the organisation. In the third part we will succinctly describe different instructional and learning design systems that help organisations solve problems and develop an internal world that is concomitant with their external environment. All three parts are separate but laconically aligned with the task, skills, and knowledge requirements. To understand the part first we will explore models from the field of organisation analysis, and organisation design. To understand the second part we will adopt a theory of social psychology of organisation (the system and sub-system theory by Katz & Kahn, 1978). In the third part we will use various learning theories, instructional models, and performance support systems to describe how to create the internal world of organisation.

## Part 1: External Environment

In defining the theory of organisation external environment, we used the biological specie concept (Mayr, 1969). An organisational specie is define as a form of organisation which exists through generations of individual organisations which are members of the specie. For a successful organisation classification specie concept comprised isolating, ecological, and generation mechanism somewhat analogous to the biological mechanism may be called for (Mckelvey,1978). It consists of three elements: ecological mechanism, the forces of natural selection dictate the form of and viability of species in the context of their environmental habitat and these forces create species in the first place. In an organisation's context, ecological mechanism leads the organisation system to adopt what is in the market like new technology, new business, and natural selection that push organisations to make strategic choices on the options available in the environment. Second are isolating mechanisms. These served to retain the species once it is formed; they prevent one specie from merging with another. In an organisation context this mechanism helps in sustainability of business. The last is generational mechanism, it helps species to anticipate the change and slowly adapt over the long term. Under an organisational context this is called change management where business is moved through successive generations and captivates the environment pressure.

The above three elements are very critical in the development of organisation external environment. The internal world of organisation is largely dependent upon the selection of biological mechanisms through which an organisation would develop its theory of an internal environment. Technological process, knowledge support, learning, and instructional system are some of the decisions that are based on the above three elements.

As published in Management Science, Sep; 1978,24(13): Organisational systematics: Taxonomic lessons from biology by Bill McKelvey.

In Fig.1, we are able to overview the influence of external environment on the workplace technology, which also bring changes in the task, knowledge and performance systems of organisation at various sub-system levels. We

all understand the biggest challenge created by the ruthless competitive economy on organisation is how to fulfill the gap of knowledge. Organisation adaption towards the new environment is an inevitable need. How fast any organisation understands and aligns with the external environment and collectively brings the change in the field of skill, organisation knowledge, and technological process will decide the success and competitive advantage of a company in any environment. Various types of external environment and how ecological forces operate to produce different organisational forms can be understood with the help of organisation theories like population ecology. Through Fig. 1 we can understand that the problems posed by the external environment (for example, lack of resources, competition, geographic conditions) have a direct impact on the workplace technology, and that is why different organizations has different workplace technology that will help them lay down the process of input-throughput-output to deal with these problems (for example, the core technology of software company is different from automobile company). Similarly different workplace technology use different managerial structure for example organic versus mechanistic structure (organic structure works best when the environment is relatively dynamic and uncertain, where as mechanistic structure works best when the environment is relatively stable) Burns & Stalker, (1961). These dynamics of an organization (workplace and managerial technology) will decide the learning environment and different instructional approaches suitable for particular organization context.

Miles, Snow, Meyer, and Coleman (19787) describe four types of organisations: Defenders, Analyzers, Prospectors, and Reactors. Each type has its own unique strategy for relating to its chosen markets, and each has a particular configuration of technology, structure, and process that is consistent with its market structure. These four types of organisations also define three types of problems that are prevailing in all the four types of organisation: the entrepreneurial problem, the engineering problem, and the administrative problem (Miles *et al*., 1987). The following are the four types of problems and the analysis of each organisation type on 31 strategic variables. Research by Segiv (1989) has been applied to analyze four types of organization on 31 strategic variables. Each strategic variable was evaluated by judges on a seven-point maximum-minimum scale, for each strategy, within its typology. We took the data from the research that is related with Miles and Snow's theory. This data represents what kind of problems and challenges in the form of a strategic variable that each kind of organization (defender, prospector, analyzer, and reactor) faces in the external environment.

## Defenders

The defender deliberately enacts and maintains an environment for which a stable form of organisation is appropriate. Stability is chiefly achieved by the defender's definition of, and solution to, its entrepreneurial problem. Defenders define their entrepreneurial problem as how to seal off a portion of the total market in order to create a stable domain, and they do so by producing only a limited set of products directed at a narrow segment of the total potential market. Within this limited domain, the defender strives aggressively to prevent competitors from entering its turf. Such behaviours include standard economic actions like competitive pricing or high quality products, but defenders also tend to ignore developments and trends outside of their domains and focus on growth through market penetration and perhaps some limited product developments. Overtime a true defender is able to carve out and maintain a small niche with in industry which is difficult for competitors to penetrate (Miles *et al*., 1987, 551). This type of organisation selects efficiency in place of effectiveness, they focus on building competitive advantage in some specific area and develop future strategies to accelerate into that product or market domain. Defenders want to be the best in class, are economical, and focus on quality and high production. Defenders also ignore innovation at a high level like developing a new product, investing in R&D or exploring new markets. Rather defender innovation has certain boundaries it would like to innovate under its own product zone, for example low cost and high production, more investment in building machines and factories, and a focus on long-term growth. According to Segev (1989), the defender scored high on technological progress, quality, control system level, equity vs debt, long-range financial strength, resources level, investment in production, internal analysis level, centralisation, mechanism, profitability, operational efficiency, and organisational age.

## Prospector

Prospectors respond to their chosen environments in a manner that is almost opposite of the defender. They work in the environment that is more dynamic than those of other types of organisation with in the same industry. Prospectors are known as innovators, initiators and constructors of new products and markets. They set the standards for other organisations and put heavy emphasis on research, scanning the environment, knowledge creation, and management. Prospectors don't believe in tight controls, strict hierarchal organisation structure, rules or policies. Rather the prospectors world is based on organic theory, collaboration, construction, innovation and challenging the status quo. According to Segev (1989), the prospector scored high on uncertainty, dynamism, product innovation, number of technologies, complexity, price level, resources level, external analysis level and among others.

## Analyzer

The analyzer is a combination of defender and prospector. It has dual continuum where at one end the analyzer looks for new products and new market developments and on the other end it wants to pursue the current stable domain of products. Analyzer always keep an eye on the market and they believe in imitation, looking for new opportunities that are created by prospectors in the market. Like the defender, the analyzer also looks for stability and makes heavy investments to maintain its dominance in some of the domains. This kind of strategy demands a dynamic system that can cater to both of the needs at one time. The analyzer defines its entrepreneurial problem as "How to locate and exploit new products and market opportunities while simultaneously maintaining a firm core of traditional products and customers." It means the analyzer needs two types of systems: one that is focused on the knowledge base through developing and gathering information into the area of new products and markets and the other is an information processing system that focuses on current repetitive tasks to maintain dominance. According to Segev (1989), the analyzers score high on dynamism, complexity, technological progress, product/ market breadth, control system, quality, price level, resources level, equity vs debt etc.

## Reactor

The fourth type of organisation is the reactor, which exhibits a pattern of adjustment to its environment that is both inconsistent and unstable. This type of organisation consists of responding inappropriately to environment change. Reactor is a situation of misalignment between external environment and internal environment and performing poorly as a result. According to Segev (1989), the reactors score high on uncertainty, dynamism, price level, level of risk, organisational age.

In the first part this paper developed the theory of external environment with the help of the biological species concept, and then we used four organisation typologies. All the four typologies work differently in the external environment of an organisation: they have different challenges, task requirements, and learning and instructional needs. In the second part we will take our research to the next level and describe the internal world of these different organisations typologies and their internal system and sub-system functions.

# Part 2: The Internal World of Organisation

In concomitant with the external environment theories that we discussed in the first part, this part describes the internal world of organisation and formation of various sub-systems, their roles, and key task requirements. To study the internal world of organisation we used the organisational sub-system theory developed by Katz and Kahn (1978).In general, there are a total of five sub-systems that form the organisational internal world, and each sub-system plays a different role in the organisation process. Each sub-system has different tasks and, depending upon these tasks, they have different learning dynamics and instructional needs (that will be examined in the next section).

## Sub-system roles

1. **Production or technical sub-system**: The production system of an organisation develops a production and operational efficiency. The role of this sub-system is generated by organisation's task requirements and the ideology is directed toward task accomplishment. This sub-system has a predefined process and the technology to follow. Efficiency comes through automation of repetitive response; however, different types of organisational contexts also influence this sub-system. In a defender type of organisation this sub-system is highly based on well-defined task requirements where the goal is to produce maximum output through repetitive tasks. The manufacturing or production units in steel and automobile industries are some of the examples of this type of sub-system. In prospector type of organisation this type of sub-system is highly liberal and segregated in different types of units as well. Some prospector types of organisations don't like to invest a heavy amount under this sub-system, and they prefer to outsource the production to a third party. The analyzer type of organisation also follows the same structure as the defender they have the well-defined roles, processes, and goals to accomplish through repetitive tasks.
2. **Maintenance sub-system**: This sub-system ensures the stability and predictability in the organisation. The most general statement that can be made about all the mechanisms for maintaining stability is that they seek to formalise or institutionalise all aspects of organisationalbehaviour. Human resource policies come under this type of sub-system that helps to preserve the pattern of existing relationships by adjustments of processes and part according to some constant ratio of energic transactions. Decisions related to organisational design, organisational fit, and performance system come under this type of sub-system. The defender type of organisation follows strict rules and polices under this type of sub-system. These polices ensure the stability of recurrent activities under the current process technology. The prospector type of organisation is more organic in nature and has

the human resource model that is people oriented. Their polices promote experimentation and innovation through decentralisation of various units, however the prospector also has some kind of standard policies and structures that bind them together but this structure follows a more liberal approach. The analyzer type of organisation has to make a balance under this sub-system; at one end they have to maintain and stabilise the process like defender and at the other end they have to ensure the proper support for innovation, change management, and new product development. Complications arise when the maintenance subsystem, which has the primary function of sustaining existing organisational patterns, acquires a secondary function of organisational change.

3. **Boundary Sub-system:** This type of sub-system includes roles that perform at boundary level of organisation. They are directed at environmental manipulations of a specific kind and their function is largely unidirectional, for example marketing, sales, purchase, industrial relations, and public relations. The primary job of the people in these structures is to develop relationships with the outside world that will help in creating mutual win-win relationships. These kinds of roles include transaction between organisation systems and the outside clients. Boundary structure has a secondary structure that brings information into the organisation and has implication for organisational change. This type of sub-system is same in every type of organisation whether defender, prospector, and analyzer. However, the intensity of the system is different under the prospector type of organisation as this kind of structures is more active and effective in bringing the information from the outside environment, which helps prospectors in understanding the needs of the market, product development, market development, business development etc. whereas in defender and analyzer type of organisation this system plays a placid role in helping the organisation stay in alignment with the government policies.
4. **Adaptive System:** The primary responsibility of this sub-system is to promote organisation fit between external task requirements and the internal world of the organisation. An example of this is departments like small project groups working closely with the leaders of the different functional units, such as research teams working with manufacturing units in the development of new products, product innovations, process transformation etc. These small planning groups allow the organisation to exploit external markets rather than be exploited by it. In companies like Apple, Ford, Tata, these groups work closely with the leadership team of the organisation to explore new markets, new products, and new opportunities for business. The maintenance sub-system and the adaptive sub-system are directed toward the survival of the organisation, both have the same objective of preserving constancy and predictability in the conditions of organisational life (Katz & Kahn 1978, 89). The adaptive function tends to achieve environmental constancy by bringing the external world under control, whereas the maintenance structure moves toward a constant set of internal structures. Under the defender type of organisation, adaptive sub-system seek internal modification of its own organisational structures to meet the needs in a changing world. In prospector type of organisation, adaptive sub-systems strive to attain control over external forces and maintain predictability for its operation. Prospector organisation is highly dependent on this sub-system because the need of innovation and market leadership can only be fulfill through the development of this sub-system. Analyzer type of organisation maintains a strong balance between the maintenance structure and adaptive structure.
5. **Managerial Sub-system:** This sub-system is the foundation of the organisation and ensures the maintenance of current process, exploration of market for new opportunities and resolution of conflicts in the internal world of organisation. The maintenance of current process guarantees efficiency that must be achieved and the process must strengthen to fulfill the needs of the organisation task. Overall control is maintained by decision-making that either resolves at the top or is given enough autonomy at the unit level to make them accountable for the certain conflicts. Development of internal world that is well aligned with the external world is the key responsibility of this sub-system. Leaders have to make sure that the organisation is moving in the right directions, exploring the right markets, and bringing in the right products. The dynamic of change generated by the adaptive structure is implemented by managerial sub-system. Under the defender type of organisation this sub-system is primarily focus on proficiency and stability of current organisation process. Most top management positions are held by people who moved up from the production rather than the adaptive structure, whereas in prospector type of organisation management structure is more influenced by the research and development, planning department and most top positions are held by employees who have moved up from these departments. In analyzer type of organisation, this department will always look for the balance between current process and changing needs of organisation.

Looking back at the previous two parts, we described the external and internal world of organisation. Now

| Sub System Structure | Function | Dynamic | Mechanism |
|---|---|---|---|
| 1. Production: Primary process | Task accomplishment: energy transformation within the organisation | Proficiency | Division of labour: Setting up of job specifications and standards. |
| 2.Maintenance of working structure | Mediating between task demands and human needs to keep structure in operation | Maintenance of a steady state | Formalisation of activities into standard legitimised procedures: Setting up of system rewards; socialisation of new members; etc. |
| 3. Boundary Systems | | | |
| A. Production – supportive procurement of materials, manpower, and product disposal | Transactional exchange at system boundaries | Specifically focused manipulation of organisational environment | Acquiring control of sources of supply: creation of image |
| B.Institutional systems | Obtaining social support & legitimation | Societal manipulation & integration | Contributing to community and influencing other social structure. |
| 4. Adaptive | Intelligence, research and development, planning | Pressures for change | Making recommendations for change to management |
| 5. Managerial | Resolving conflicts between hierarchical levels, coordinating and directing functional substructures. Coordinating external requirements and organisational resources and needs. | - Control<br>- Compromise vs. Integration<br>- Long- term survival; optimisation, better use of resources, development of increased capabilities | -Use of sanctions of authority<br>- Alternative concessions, setting up machinery for adjudication, increasing volume of business, adding functions: controlling environment through absorbing it or changing it; restructuring organisation. |

" As published in The Social Psychology of organisations, 2nd edition by Daniel Katz and Robert L.Kahn, USA: John Willey & Sons.Inc, 1978, Pp-69-70

**Fig. 2: Formal Sub-System of an Organisation (Katz & Kahn, 1978)**

the question is how we can built the internal world of organisation that is ready to perform and overcome with the challenges in the form of strategic variables that we have discussed in the part 1. that there are different types of requirements for the internal world of organisation that are largely influence by the organisation type for example defender type of organisation look for the internal world that is efficient in repetitive task, wherehigh production and building machinery is the synonym of excellence, where as in prospector internal world innovation and new product development are the synonyms of excellence. The third part of this paper will focus on how defender, prospector, analyzers, and rectors can create the internal world that is agile and align with the external requirements. Author will describe various learning, instructional and performance systems that are helpful in creating different types of internal world of the organization. Some of the questions we will address in the third part includes;

1. How can we create the internal world of organisation that is agile and ready to take up the challenge of external environment posted in the form of strategic variables (uncertainty, technological progress, product innovation, hostility, etc.)?
2. Do we have answers of the many performance problems related with the sub-systems in different organisation context (defender, prospectors, analyzers, and reactors)?

## Part 3: Instructional Approaches and Learning Design Systems

This part focuses on the development of the internal world of organisations. The primary objective is to describe how different learning and instructional support systems help different organisations in building the internal world that is well aligned and agile with the external environment. To understand any learning system we must know three distinct viewpoints of learning theories that develop different types of learning environments: behaviourism, cognitivism, and constructivism.

1. **Behaviourism:** It equates learning with changes in either the form or frequency of observable performance. Learning is accomplished when a proper response is demonstrated following a presentation of a specific environment stimulus (Ertmer & Newby, 1993). In this type of learning, the learner and environment both play critical roles. The environment helps to create feasible conditions in which the expected response can be generated. Learning occurs through repetitions of the same recurrent process.

2. **Cognitivism:** Under this view learning is more learner-centered with changes between states of knowledge rather than with changes in the probability of response. This theory focuses on the conceptualisation of an individual's learning process, knowledge and skills, and how the information is received, related, stored, analysed, and retrieved. Learning is concerned not so much with what learners do but with what they know and how they come to acquire it (Jonassen, 1997).
3. **Constructivism:** Constructivism is a theory that equates learning with creating meaning from experience ( , Cunningham, Duffy, & Perry, 1991). Constructivists do not share viewpoints with the cognitivist's and behaviourist's theories. Under this view, knowledge is stemed from the discussions, collaboration, and integration. Humans create meaning as opposed to acquiring it. Learners do not transfer knowledge from the external world into their memories; rather they build knowledge through personal interpretations and world based on individual experiences and interactions.

All the above learning theories are very important for understanding the linkage between the type of organisation system, role of sub-systems and the learning viewpoints that will help us to define the internal world of organisation. Different organisational types discussed in our first part always strive to develop their internal world based on the above learning theories. For example, the defender learning environment is highly influenced by behaviourism that helps defenders to fulfill the need of the recurrent process. The production and operational efficiency are achieved by creating an environment that will engender the same response again and again. Strategic variables like control in the system, stabilisation, profitability through operational efficiency, and production process are accomplished under this type of learning environment. The prospector's world is highly influenced by constructivism where the objective is to make the world adjust by exploiting a changing environment rather than to be exploited and adjusted by them. In this type of organisation, humans create meaning and build products through implementing tactic knowledge with the help of collaboration, integration, and personal interpretation. Major problems like how to locate and exploit markets can be solved through the constructivism view of learning. The analyzer type of organisation always forms a balance and adopts different learning viewpoints in their sub-systems where it is required.

To understand any instructional and learning framework there are two factors that play a critical role: instructional situation and instructional approach (Reigeluth & Carr-Chellman, 2009). The instructional situation includes all aspects of instructional contexts that are useful for deciding when and when not to use a particular instructional method. Instructional approach is anything that is done purposely to facilitate learning or human development. We will see in brief how these two factors define the instructional context.

## Instructional Situation

Instructional situations describe aspects of an instructional context that are useful for deciding when and when not to use a particular instructional method. Each individual aspect of the context is referred to as situational (Reigeluth & Carr-Chellman, 2009, p-21).

**A. Values:**These include the complete set of values represent the philosophy of instruction. The selection of instructional theory is largely based on the values of stakeholders includes employer, manager, and communities. The values about instruction should be made explicit for every instructional theory, to aid in selection of an appropriate instructional approach.

Values are described in three ways:

1. Values about priorities: This includes relative importance of the effectiveness, efficiency, and appeal of the instruction as criteria for judging how good the instructional methods and guidelines are.
2. Values about methods: Which instructional methods are best according to the context.
3. Values about power: Who has the power to decide which instructional approach is suitable and make decisions related with goals, priorities and methods?

**B. Conditions:** All other factors that include the selection of instructional approach.

1. Content: What is to be learned? What skills, knowledge and task are on priorities? What is the strategic challenge in hand? What are the major organisational problems?
2. Learner: Prior knowledge, work experience, learning styles, learning strategies, motivation and interest.
3. Learning environment: Human resources, rewards, performance system, and organisational learning arrangements.
4. Instructional Development constraints: Money, technology, commitment, calendar time and person hours.

## Instructional Approaches

Instructional methods that fit under this category are macrostrategies. The instructional approach sets a general direction or trajectory for the instruction and is comprised of more precise or detailed components (Reigeluth & Carr-Chellman, 2009). We will discuss five major types of approaches under this paper: direct approach to instruction,

discussion approach to instruction, problem-based learning, experiential learning, and simulation.

## Defender's World

## Direct Approach to Instruction

## 1. VALUES

A. Values about ends: Direct approach to instruction is focused on information processing, skills, understanding and higher-order thinking. It has a well-defined curriculum that includes predefined knowledge, skills, and competence required for organisation performance. This approach focuses on accomplishing an ultimate goal and supporting the development of skills and knowledge in certain defined areas.

B. Values about criteria: This approach focuses on efficiency towards high production, quality standards, coverage of content objectives, and developing proficiency in repetitive tasks.

C. Values about means: Direct approach follows the standard presentation of objectives that include what to achieve, why to achieve, review of skills, and guided practice that will follow the step by step progression that take learners on the development journey.

D. Values about power: Under this approach the power remains in the hands of senior management to decide what to achieve, how to achieve, and what skills, knowledge, and competence are required at all levels.

Instructional method/approach includes conditions as well.

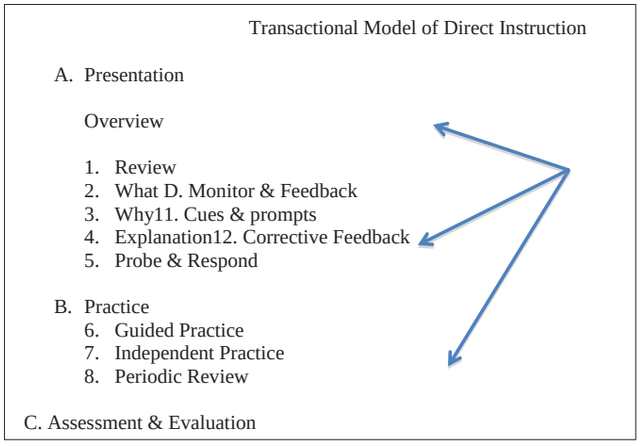


**Fig. 3: Transactional Model of Direct instruction**

"As published in Instructional – Design Theories and Models, by Charles M. Reigulth and Alison A. Carr-Chellman, New York: Routledge,2009, Vol-III, pp-81-82"

## A. Presentation Phase

There are five instructional methods that will be used under presentation phase.

1. **Review:** It all starts with the review of individual learners that what he/she did in the past, performance on task, current skill, and knowledge level, etc. Under this review, the performer will go through with the previous targets and goals and reflect on what happened, how to improve further, and what the future areas are that need to be developed with the emphasis on prospective organisational goals. The performer reflects on new skills and knowledge required for future performance. Each performance cycle starts with the review process in the organisation and a decision is made based on the current performance and skill sets.
2. **What:** This section presents the organisation's goals, priorities, and task on hand. Generally most of the organisations use KRI and KPIs (key result indicators are the measures that describe the results of many actions; key performance indicators are the measures that define the action perform). Under this phase, the manager states the goal/objective and sets the KPI that will define performance and actions needed to achieve that performance. This stage sets the integration of goals and KPIs; the goals include the broad definition of what to achieve (like increase production from 50,000 tonnes to 60,000 tonnes) and KPIs will tell how to achieve that production (for example, flow of production, one-piece flow, quick set up and change over, quick employee start up).
3. **Why:** In the third method, the manager describes why a particular objective is important for the performer. This can be done through alignment of KRIs with individual goals to show the performer a big picture. This stage presents the integration of organisation KRIs (net profit before tax, sales revenue, production cost), organisation goals, individual goals, individual career aspirations and performer objective, and KPIs. It is important that performers have a personal reason to be engaged in the performance process.
4. **Explanation:** This method is the active, careful explanation to the performer about the step-by-step task that he has to perform. This is an ongoing process and there is no set of rules. Research has identified number of organisations that might be used: (a) Component relationships, (b) Relevance relationships, and (C) Sequential relationships.
5. **Probe and respond:** Under this method the manager creates a friendly learning and interactive environment to let the performer ask questions about the content, knowledge, and goals of organisation and develop some deep understanding about the task.

**Table2: Consistent Information and Portrayal for Categories of Component Skill**

| | InformationPortrayal | | | |
|---|---|---|---|---|
| **Kinds –of** | **Present (tell)** | **Recall (Ask)** | **Demonstrate (show)** | **Apply (do)** |
| | Tell the definition | Recall the definition | Show several specific examples | Classify new examples |
| How –to | Tell the steps & their sequence | Recall the steps & their sequence | Show the procedure in several different situations. | Carry out the procedure in new situations. |
| What – happens | Tell the conditions & consequence involved in the process. | Recall the conditions & consequence involved in the process | Show the process in several different situations. | Predict a consequence or find faulted conditions in new situations. |

"As published in Educational Technology Research and Development(2002), First Principles of Instruction by M.David Merrill, 50(3), 43-59"

## B.The Practice Phase

6. **Guided Practice:** The instructor must actively monitor the performer's behaviour, proficiency on the task and areas of improvement and help support the performer to achieve the required goals. Merrill (2002) describes the five instructional design principles and one of the principles is "demonstration." The demonstration principle states that the learning of tasks is promoted when the learner observes a demonstration of the skills to be learned that is consistent with the type of the task. This principle is most appropriate for generalisable skills; a generalisable skill is one that can be applied to two or more different specific situations. There are three types of generalisable skills: Concept classification (or kinds of), carrying out a procedure (or how to), and predicting consequence or finding faulted conditions in the execution of a process (or what happens) (Merrill,2002). All three categories of skills are very effective in the defender context, "Kinds of" resembles what to do, what are the taskson hand, and what goals need to be accomplished, "How to" defines the step- by- step process to accomplish the goals, "What-happens" define fault finding process and reflection.
7. **Independent Practice:** This method focuses on practicing the skills and doing the task on its own. It's the performer applying the learned skills and exploring the process. In this stage it's important to provide the guided information support with tasks that help learners in information processing.
8. **Periodic review and formative assessment:** Under this method, managers collect data on learner performance on task and skills. Generally some organisations do formative assessment in the form of quarterly reviews that include the performance check on the current status.
9. **Summative Assessment:** In this method, managers conduct the evaluation of performance, skills and knowledge of learner and how he or she performed on the given task. The points to be considered arewhat goals the performer accomplishes in the end of the year, what kind of new skills developed, and what the future development scope is.

## C. Monitor and feedback

This can be done through providing cues and prompts to learner at the time of practice to support performance and keep them align with the task. Corrective and constructive feedback will set the tone of future development of learner so this phase has to be set up very cautiously and align with the organisation development system. Individual development should be based on current and future organisation needs and goals.

## Prospector's World

Now we turn to instructional and learning framework and will try to explore the answers to the following questions:

1. What kind of instructional approach is best suitable for prospectors?
2. Which instructional approach defines this kind of environment?
3. Which instructional approach solves the prospector problem?
4. What kind of skills, knowledge, and competence does the prospector require and what kind of instructional scenario is best suitable for prospectors?

The major challenge for prospectors is to create a new world, a new approach, a new product, a service or product that hasn't been created by any organisation and this challenge requires lot of different instructional scenarios. We cannot choose any one instructional design approach that fulfills the prospector's requirements but in today's world the instructional design has made lot of improvement to cater to needs of prospectors in supporting them create a new world. The prospector world is complicated and there is no

**Table 3: The World of Constructivism**

| | Problem based | Discussion | Experiential | Stimulation |
|---|---|---|---|---|
| **Values** | - Development of problem-solving& decision making skills.<br>-Alignment & transfer to real –world task.<br>-Effectiveness is values over efficiency.<br>-Importance of self-direction.<br>-Use of complex, authentic problem with no single right answer.<br>- Teacher as a tutor, process facilitator, and metacognitive coach<br>About Power: Learners have more responsibility to direct their own learning. | -Emphasizes learning not teaching.<br>-Importance of deep thinking, sharp analytical skill & empowerment of learners.<br>-Effectiveness & appeal is highly values in place of efficiency<br>-Instructional methods include student learning through participation, respecting different perspectives, collaboration and democratic process, problem-solvingskills, values creating a community of learners.<br>-About power: Empowers learners and should be very inclusive & participatory | -Experience sets the foundation of learning.<br>-Effectiveness & appeal are valued over efficiency.<br>-Learners construct their environment through experience.<br>-Authentic feedback.<br>-Social constructivist approach should be used.<br>- About Power: Learner should be active participants who assume mush self-direction | -Understand principles & relationships in dynamic systems.<br>-Developing skills for dealing with dynamic systems.<br>-Effectiveness, efficiency,& appeal can all be maximised, as long as the user population is large enough to make it emotional.<br>- Learning experience involve authentic tasks, context and should be adaptive, generative, and scalable.<br>-Learning experience should involve a dynamic model of physical and or conceptual systems.<br>- Learner interactions with the model should result in state changes.<br>-Learning experience should have at least one designed augmenting instructional function. |
| **Pre-Conditions** | -Complex problems that do not have a single correct answer.<br>-Learners must have some prior knowledge gained from real world experience.<br>-Instructor &organisation must be committed to PBI. | -In depth exploration of topics, not presenting of large amount of information.<br>- Critical thinking &problem-solving. | - Any content that is related to experience. | -Learners are active participants who have some degree of free agency within the stimulated environment. |
| **Principals** | - Select the problems that are Authentic and Fit with in the curriculum for the discipline and encourage cross- discipline thinking.<br>-The role of manager is to support the development of the learner's metacognitive processing skills and the learner's expertise as problem solver.<br>-Use Authentic assessment practices to validate the learning goals.<br>-Use consistent and thorough debriefing activities to consolidate key concepts learned from the experience. | -Engagement of learners in real life situation.<br>-Activation.<br>-Demonstration of new learning.<br>-Application of new knowledge.<br>-Integration of new knowledge.<br>-Shared responsibility.<br>-Collaboration & multiple perspectives.<br>-Life experiences.<br>-Activation for higher learning.<br>-Democratic learning community.<br>-Physical environment | - Framing the Experience.<br>- Activating Experience.<br>- Reflecting on Experience. | - Content Function (supply model content)<br>- Strategy function (implement instructional augmentation)<br>-Control function (provide user control) |

one fixed instructional approach for its organisation context. Rather the prospector has to integrate different constructive approaches depending upon the needs. There are four instructional approaches viz. problem based, discussion, experiential, and stimulation approach. All of these approaches define the prospector's world. Let's see how we can use these approaches in the prospector's context. The table 3 describes all the instructional approaches in three parts values, preconditions, and principals. All of these theories developed from the same origin; they are derived from the theory of constructivism. The prospector can adopt the approach based on organisation requirements.

## Instructional approaches for Prospectors

In Table 3, there are four instructional approaches and which instructional approach is best suitable for prospectors is dependent upon the organisations context, goals, task, and workplace technology. Theintegration of all the four approaches is very important for the prospectors because each approach has something different to offer and is capableof implementing the constructive task. Theobjective of this paper is not to describe all of the instructional approaches in depth but rather to determine which instructional approach is best aligned with the organisational task context, though we will use some theories later in this paper and try to make the relations with the prospector context and instructional approach. The three problems of prospectors: the entrepreneurial problem focuses on "How to locate and exploit new product and market opportunities." The prospector always looks for new opportunities, they are the creators who create change in the industry and their instructional needs are opposite of the defender's needs.Prospector's learning world focuses on constructivism: "Constructivism is a theory that equates learning with creating meaning from experience" (Bednar *et al.*, 1991). Constructivists do not share with cognitivists and behaviourists in the belief that knowledge is mind-independent and can be "mapped" onto a learner. Learners do not transfer knowledge from the external world into their memories; rather they build personal interpretations of the world based on individual experiences and interactions. Thus, the internal representation of knowledge is constantly open to change; there is not an objective reality that learners strive to know. Knowledge emerges in context within which it is relevant, based on the above definition the prospector needs an instructional approach that supports them in constructing the new product, new service, or new idea and this can be possible through the integration of above four approaches. The engineering problem of prospector deals with "How to avoid long-term commitments to a single technological process." The prospector's engineering world is based on innovation, and finding smart and fast ways of implementing the projects without any major investments. Problem-solving and experiential learning play a major role in solving the engineering problems of prospectors. Both the approaches are suitable for the complex world. For example, the problem-based approach supports the environment where there is no single correct solution for the problems and the experimental approach highly relies on the experience of learners through which they will construct a collaborative solution. The administrative problem focuses on "how to facilitate and coordinate numerous and diverse operations." The prospector work is largely driven under a project type of environment. They have project teams dealing with different contexts and problems. High differentiation of tasks is one of the characteristics of prospectors. Due to the challenge of being an innovator in every field, they always look for some kind of support in the form of information, knowledge management, guidance system, or intelligent tutoring system that helps them in constructing innovative ways in carrying out their day-to-day activities. The prospector needs support that helps to be proficient and know the task well and can able to execute the different tasks with effectiveness. Their world is always challenged by the changes in the external environment, such as product change, market change, or process change. They must be capable of switching and carrying out the new task. Scaffolding the whole task is one of the kinds of support that helps prospectors. Scaffolding explicitly pertains to a combination of performance support and fading. It includes all devices of strategies that support learning (Rosenshine & Meister, 1992). When the learner achieves the proficiency in the required task, the support gradually diminishes. Scaffolding also includes information and knowledge support that is embedded into the task and sometimes this support can be in the form of some kind of tutoring system.

We won't go into depth in explaining the process of designing an instructional method for prospector but we will describe the steps and models involves in designing the above four methods of instruction.

## Problem Based Approach to Instruction (Jonassen, 1997)

There are two types of problems - well–structured and ill-structured (Jonassen, 1997). Well-structured problems require the application of finite number of concepts, they have a stated objective, goals, and process to accomplish the goals. Ill-structured problems have no predefined objective or one or more aspects are not clear. Table 4 shows instructional design models for well-structured and ill-structured problem-solving learning outcomes by Jonassen (1997).

Both the problems are very different in nature and require different instructional approaches. Generally, prospectors face ill-structured problem contexts where some parts are

**Table 4: Features of well-structured & ill-structured problems**

| Well-structured problems | Ill-structured problems |
|---|---|
| 1.Present all elements of the problem<br>2.Are presented to learners as well-defined problems with a probable solution.<br>3. Engage the application of a limited number of rules and principles that are organised in a predictive and prescriptive arrangement with well-defined, constrained parameters.<br>4. Involve concepts and rules that appear regular and well-structured in a domain of knowledge that also appear well-structured and predictable.<br>5. Possess correct, convergent answers.<br>6. Possess knowable, comprehensible solutions where the relationship between decision choices and all problem states is known or probabilistic. | 1.Appear ill-defined because one or more of the problem elements are unknown or not known with any degree of confidence.<br>2.Have vaguely define or unclear goals.<br>3. Possess multiple solutions, Solution paths, or no solution at all, that is, no consensual agreement on the appropriate solution.<br>4.Possess multiple criteria for evaluating solution.<br>5. Possess less manipulatable parameters.<br>6. Have no prototypic cases because case elements are differentially important in different context and because they interact.<br>7. Present uncertainty about which concepts, rules, and principles are necessary for the solution or how they are organised.<br>8. Possess relationships between concepts, rules, and principles are necessary for the solution or how they are organised.<br>9. Offer no general rules or principles for describing or predicting most of the cases.<br>10. Have no explicit means for determining appropriate action.<br>11.Require learners to express personal opinion or beliefs about the problem, and are therefore uniquely human interpersonal activities.<br>12. Require learners to make judgments about the problem and defend them. |

" As published in Educational Technology Research and Development, Instructional Design Models for well-structured and ill-structured problem-solving learning outcomes by David H. Jonassen, Vol.45, No.1(1997), pp-65-94"

missing and the constructive approach is required to find the right solution. Some of the examples of ill-structured problem contexts are capturing the market in middle Asia, new product design, product innovation, process innovation, capturing the changing needs, etc. Let's discuss one by one using both the problem-solving approaches.

## Well-structured Problem-Solving Process

Figs. 4 and 5 describe the well-structured problem-solving model.

"As published in Educational Technology Research and

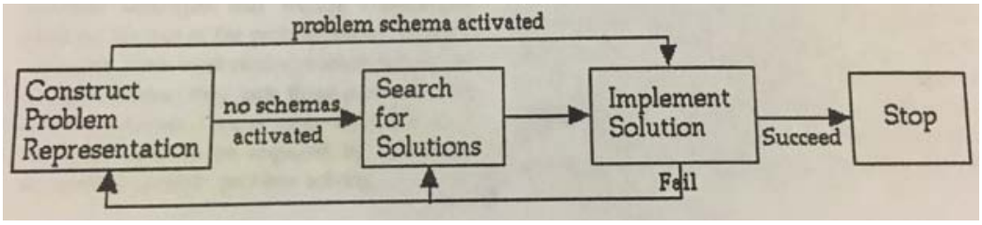


**Fig.4: Simplified schematic of problem-solving process (Gick, 1986)**

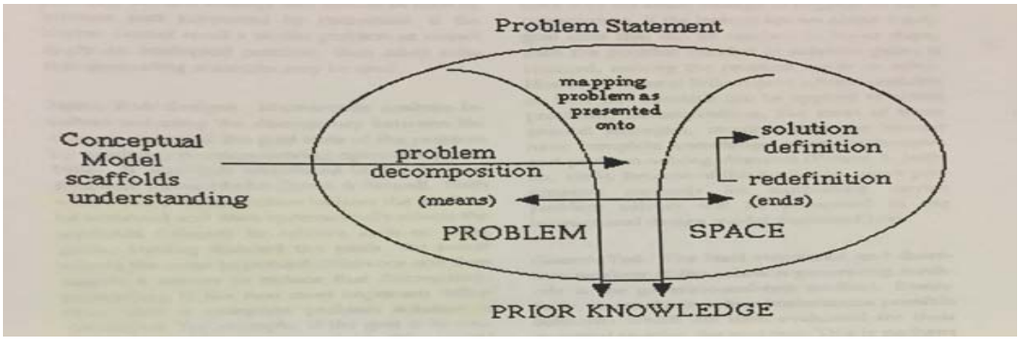


**Fig.5: Conceptual model of the well-structured problem-solving process**

Development, Instructional Design Models for well-structured and ill-structured problem-solving learning outcomes by David H. Jonassen, Vol.45, No.1(1997), pp-70-71"

Under this model the first step is representing the problem and mapping the knowledge with prior knowledge and concepts. The process of mapping is called schema activation; this process introduces the learner's understanding of the task and goals while aligning the task requirements with current schema. If the existing schema is able to find the right solution of the problem, then the cycle moves to the implementation stage. If the learner fails, that means no schema is activated and then a search for solutions would include a variety of strategies like recall analogical problems, means-end analysis, decomposing and simplifying, etc. Well-structured problem-solving steps include:

1. Review prerequisite component concepts, rules, and principles
2. Present conceptual or casual model of problem domain
3. Model problem-solving performance in worked examples
4. Present practice problems
5. Support the search for solutions
6. Reflect on problem state and problem solution.

## Ill-structured problem-solving

This context is entirely different and possesses a challenge on the instructor as well. A well-defined knowledge base, guidance support, and if possible, built-in task support or some kind of tutoring system would be very effective to solve ill-structured problem-solving. Under these conditions, the learner has to construct the solution through collaboration, integration of concepts, building a knowledge base, activation of metacognitive skills, and reflection. The following are the steps in designing and developing ill-structured problem-solving instruction:

1. Articulate problem context
2. Introduce problem constraints
3. Locate, select, and develop cases for learners
4. Support knowledge base construction
5. Support argument construction
6. Assess problem solutions

"As published in Educational Technology Research and Development, Instructional Design Models for well-structured and ill-structured problem-solving learning outcomes by David H. Jonassen, Vol.45, No.1(1997), pp-86-87"

## Discussion approach to Instruction (Reigeluth & Carr-Chellman, 2009)

The discussion approach is participatory in nature. It demands freedom at a subordinate level and more accountability needs to be decentralised at lower levels, in fact, under the discussion approach there is no hierarchy of levels; each participant is fully involved and shares a collaborative relationship with each other. This approach entails managers and employees learning from each other, promotes deeper thinking, sharpens skills, and empowers participation. The following are the steps for the discussion approach (Reigeluth & Carr-Chellman, 2009, pp-108-110):

1. Get started/develop a plan
2. Develop a concept outline
3. Add a question outline
4. Create a visible outline

## Experiential approach to Instruction (Lee & Caffarella, 1994)

Learning from experience is one of the most effective

**Table 5: Implementation Process for Ill-Structured Problems**

| Designer/ Developer | Learners |
|---|---|
| Articulate Problem Domain<br>Introduce Problem constraints<br>Locate, Select, and develop cases<br>Construct case knowledge base/present to Learners | Articulate Goals/Verify problem<br>Relate problem Goals to problem domain<br>Clarify Alternative perspectives |
| Provide Knowledge resources | Gather Evidence to support/Reject positions |
| Support Argumentation construction | Determine validity/construct Argument<br>Implement and Monitor Solution<br>Adapt Solution |
| Assess Problem solutions | |

approaches of instruction especially in the prospector's context. This framework demands active learner involvement and focuses on authentic learning experiences. The learner takes the accountability of the whole process. For example, the prospector faces so many situations day-to-day that are new to like the challenge of getting into a new market, the innovation into a new product line, exploring markets, etc. These types of authentic scenarios are best developed under the experiential approach of learning where the learner is solely accountable to execute the process of learning and applies skills in new contexts. Jean Piaget, the Swiss cognitive psychologist observed, "A person is constantly striving to make sense of the world, either in terms of what he already knows or in new terms that he must define. Interaction with the environment either results in a process of assimilation, in which the experience is integrated into existing knowledge, or results in accommodation, in which the knowledge gleaned from the experience forces a modification of existing knowledge". The experiential approach is a constructive process including assimilation, accommodation, and interpretation. See Fig.6 for a visual of each step in experiential instruction.

Step1: Framing the experience includes:

1. Defining Instructional Objectives
2. Communicating Criteria for Assessment
3. Formally Defining the Social Structure.

Step2: Activating Experience includes:

1. Authentic Experience
2. Making Decisions for Authentic Outcomes
3. Problem Orientation
4. Optimal Difficulty

Step3: Reflecting on Experience includes:

1. Instructor Facilitation
2. Community Building
3. Process: What happened, Why it Happened, What was Learned, and How to apply it.

## Stimulation Approach to Instruction (Gibbons, Mcconkie, Seo, & Wiley, 2009)

The prospector's world is best defined through stimulation. Today, major problems of innovation can be solved through this method if it is implemented effectively (i.e., with all of its principles taken into considerations). Whether it's a stimulation related with a new product, a new market, new services, or new process, this method can create any kind of world that prospectors look forward to construct. An instructional stimulation involves a dynamic, changing, computable model; new states of the model are determined by the learner's actions towards the model or by its own continuous computations. Stimulation can be considered instructional only if it is augmented with one or more auxiliary instructional functions that assist the learner in some way during learner-model interaction (Gibbons, 2001). Augmentation is a critical part in any instructional stimulation with in an environment—this allows the learner to create different scenarios, courses of interaction supported through scaffolding, coaching, feedback, or on the spot instruction tailored to the circumstances and requirements of performance. The following are the steps included in designing simulation architecture (Gibbons & Rogers,n.d., p.315):

1. Content function: Supply model content.
2. Strategy function: Implement instructional augmentations.
3. Control function: Provide user controls.
4. Messaging function: Generate message units.
5. Representation function: Generate and assemble representation elements.
6. Media-logic function: Execute representations and computations.
7. Data management function: Manage data resulting from interactions.

Simulations are very effective; they allow performers to learn new skills and develop skills in the artificial environment that represents authentic tasks. The learner can experiment with different techniques to find out which is best aligned with the task that provides maximum output. The effectiveness of stimulation depends upon the course of interaction and events that are offered to the learner within the system. Different simulations are created depending upon the requirements of the organisation and differ in the


"As published in Instructional – Design Theories and Models, by Charles M. Reigulth and Alison A. Carr-Chellman, New York: Routledge,2009, Vol-III, pp125-126"

**Fig.6: Graphical Representation of the Three Universal Principles of Experiential Instruction**

**Table 6: Analysis output requirements for different projects.**

| Type of project | Level of output | Level of detail | Form of Models |
|---|---|---|---|
| Stand-up instruction | A relatively small pre-selected group of representative problems can be used for modeling demonstrations and practice within a general context of direct instructional messaging | Only detail relevant to the specific example. Some details of systems and relevant portions of the environment. These may be presented in non-graphic ways during instruction. | Slide-type, fixed illustrations of internal systems state "snapshots" that show the effects of expert performances on systems and environments. |
| Multi-media instruction, minimum instructor involvement | A relatively small pre-selected group of representative problems that can be used for modeling demonstrations and practice administered by an interactive medium. | Sufficient detail to represent appearance of the controls and indicators of systems. Less emphasis on the details of the environment. | Interactive but not fully-modeled systems. In most cases developed as logic sequences that try to simulate system function with a limited number of pre-set computational paths. Environments that are represented as backgrounds for system displays but that are not necessarily realistic and sometimes may be eliminated altogether. |
| Full modeling environments | A wide range of problems to be represented as degraded states of system function(for example a system with broken components) and a full set of corresponding indications. | High level of detail that can be used to build interactive model of systems. Moderate to high environment detail depending on the need to navigate environments. Performance models not strictly necessary. | Computer models of systems and perhaps environment. |
| Intelligent tutoring | A wide range of problems to be represented as degraded states of system function (for example a system with broken components) and a full set of corresponding indications. | High detail in all the areas: environment, systems, and expert performance. | Computer models of systems and performance. Possibly also an environmental model. |

"As published in Instructional Journal of Structural Learning and Intelligent: Model –Centered Analysis Process Analysis (MCAP), A predesign analysis methodology by Andrew S. Gibbons & John S.Nelson, 14(4), pp.511-540"

type of media and course of interaction they employ. Table 6 represents the different types of simulation environments for different requirements from stand-up instructions to full modeling environments (Gibbons & Nelson, 1999).

We discussed different instructional approaches for prospectors but all the four approaches are somewhat similar to each other because they all represent the field of constructivism. The focus of constructivism is on creating cognitive tools which reflect the wisdom of the culture in which they are used as well as the insights and experiences of individuals. There is no need for the mere acquisition of fixed, abstract, self-contained concepts or details. To be successful, meaningful, and lasting, learning must include all three of these crucial factors: activity (practice), concept (knowledge), and culture (context)(Brown, Collins, & Duguid, 1989).If prospectors have to be successful, no matter what approach they select from the above four approaches, the support mechanism has to be embedded into the system that promotes guidance, coaching, the development of the knowledge base, and the scaffolding of tasks at each step. There are many models of knowledge construction that prospectors can adopt to depending upon the need of the task and context like situated cognition, communities of practice, cognitive apprenticeship and CSILE, etc. Fig.7 represents how prospectors can develop the constructive world through modeling the process of learning and knowledge construction (Lajoie, 2000).

A situational context includes the goals, objectives, problems, knowledge base, objects, and relationship. "A situation is considered to be an instance of a situation types occurring at time t, where a situation-type is an abstract entity defining a context in which interaction can occur" (Lajoie, 2000). Interaction process model includes the event that defines the interaction in the situation among the objects and it also includes the student modeling process that describes learners' current knowledge base, schema activation, and working memory consideration. The third part of the process will activate the affordance model including tutoring strategies, scaffolding and knowledge base provided by the system that leads to cumulativeness, constructiveness, self-regulatedness, and reflectiveness.

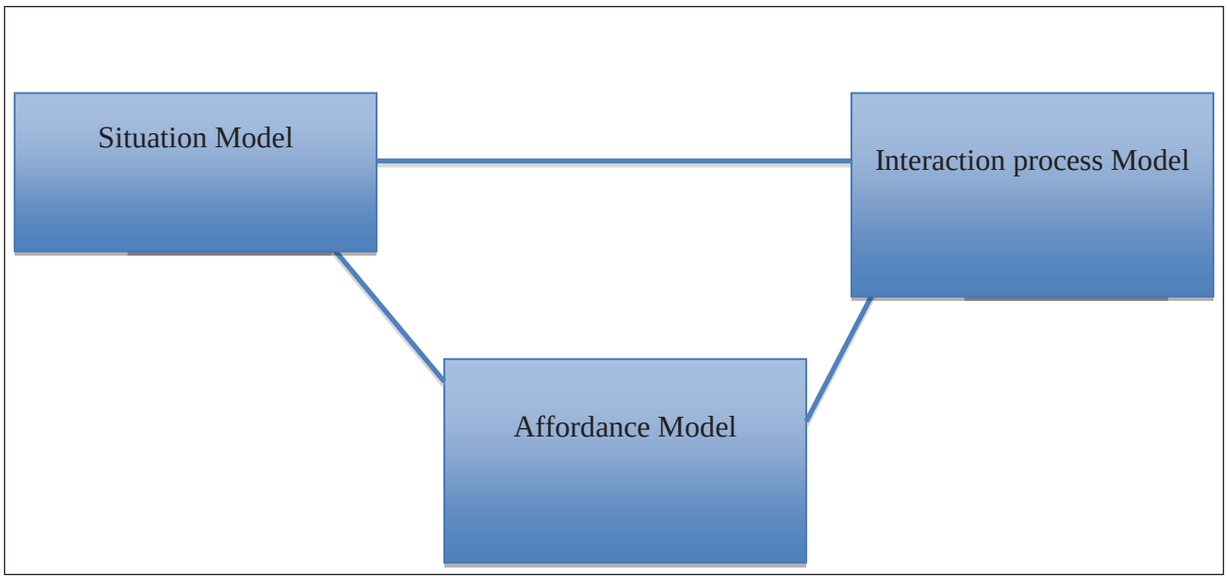


**Fig.7: Modeling the Process of Learning (Lajoie, 2000)**

## Analyzer's World: The Dual Continuum

The analyzer is a combination of defender and prospector. It has a dual continuum where at one end the analyzer looks for new products and new market development and on the other end wants to pursue the current stable domain of products. The analyzer always keeps an eye on the market and believesin imitation, looking for new opportunities that are created by prospectors in the market. Like the defender, analyzers also look for stability and make heavy investments to maintain their dominance in some of the domains. This kind of strategy demands a dynamic system that can cater to both needs at once. The analyzer defines its entrepreneurial problem as how to locate and exploit new product and market opportunities while simultaneously maintaining a firm core of traditional products and customers. It means the analyzer needs two types of systems: one that is focused on the knowledge base through developing and gathering knowledge into the area of new products and markets and the other is an information processing system that focuses on current repetitive tasks to maintain dominance. The engineering problem of the analyzer focuses on a dual technological core: the stable component of the analyzer's technology bears a strong resemblance to the defender's technology. It is organised, process-oriented, and based on pre-determined repetitive tasks. The major needs of learning under this continuum are how to be efficient in performing the task and pursue excellence in the current process. Scaffolding the process provides necessary support in the form of information and knowledge. Coaching is the best strategy to solve the engineering problem of analyzers using two types of approaches: the first is simple to complex sequencing (Merrienboer, Krischner, & Kester, 2010), where complex problems are broken down into simpler parts that are trained separately. The second approach includes all conditions that simplify the performance of the tasks identified, and instructions start with the most simple but authentic case that professional might encounter in the real world. The other continuum resembles the prospector where the challenge is to design new technologies and work on different projects to cater the needs of new product design. Major learning needs of this continuum are based on constructivism theory requiring cognitive support tools to construct knowledge, collaborate, and execute the required projects. Administrative problems of analyzers deal with "How to differentiate the organisation's structure and processes to accommodate both stable and dynamic areas of operation." This is a major task with laying down the structure that promotes new products' development through decentralisation and strict controls in the current process both at the same time. This is the time where the analyzer has to decide which type of instructional approach is suitable for their context. Hence we can't propose any one instructional approach for analyzer context, it is an amalgamation of defender and prospector and it largely depends upon the organisation. They should consider what they want to accomplish, for example to create a competitive advantage in any one product domain. Then they need a direct instructional approach (discussed in defender's world) and if they want product innovation and new business development. Then the world of constructivism (discussed in prospector's world) is applicable.

## Fostering skill development instructional approach

There is one more approach to instruction that is common in all the organisation types. Romiszowski (1981) describes a skills-analysis approach to instructional design and classified skills in terms of their complexity and sophistication:

1. **Reproductive Skills.** Activities those are repetitive and largely automatic, involving the reproduction of the same standard procedure every time they are practiced–these may be considered as the selection and application of an appropriate procedure, or algorithm, for the task.
2. **Productive Skills.** Activities that involve the planning of a procedure appropriate to the specific situation, through the application of theory, general principles, and creativity–the underlying knowledge is heuristic rather than algorithm.

The above two definitions classify the skills and it are also related to the types of organisations described earlier. The defender skills continuum is more focused on reproductive skills activities that are repetitive and largely automatic. Defenders always look for refining the skills and development in a set domain. The prospector skills continuum is focused on productive skills where a constructive framework calls for collaborative planning, application of various concepts, theories, and knowledge construction. The analyzer skill continuum is an integration of both types of skills reproductive and product.

Romiszowki also describes the skill cycle for different skills continuum. The skill cycle involves different stages, commencing with the receiving of information from the environment, conceiving and aligning with current information, knowledge and skills in the form of schemas and responding it with the right action. This skill cycle is different for different organisations depend upon the organisation context, goals, skills, and knowledge.

## Four Stages of Performance Cycle for Different Organisational Context

We will describe the skills cycle in three contexts of organisations that we discussed in this paper, in the perspective of the defender, prospector, and analyzer.

### Defender

Under the defender type of organisation, this performance cycle is very straightforward. In this context, the performance cycle is totally reflexive and automated. The learner perceives the information and automatically triggers a physical action like machine operators running a machine, material handling, etc. In a defender organisation, the focus is given more on efficiency, more production in less time and lowering the cost. Every sub-system knows what role they have to play and how to accomplish the goals. The performance loop for defender organisation describe as "S-1-4-R."

**Table 7: The Skills Schema (Romiszowski, 1981)**

The Skills Continuum

| **Domain or Category of skilled activity** | **Reproductive skills**<br>**Knowledge Content:**<br>**Applying standard procedures (algorithms)** | **Productive skills**<br>**Knowledge content: applying principles and strategies(heuristics)** |
|---|---|---|
| Cognitive Skills<br>- Decision making<br>- Problem-solving<br>- Legal thinking etc. | Apply a known procedure to a known category of "problem"(e.g., dividing numbers, writing a grammatically correct sentence.) | Solving "new" problems or inventing a new procedure (e.g., providing a theorem, writing creatively) |
| Psychomotor Skills<br>- Physical action<br>- Perceptual acuity etc. | Repetitive or automated skills (e.g., typewriting, changing gear, running fast) | "Strategy" or "planning" skills(e.g., Painting, defensive driving, playing football) |
| Reactive Skills<br>- Dealing with oneself: (attitudes and feelings, habits and self-control) | Conditioned habits and attitudes: attend, respond (Krathwohl et al, 1964): approach and avoidance behaviours(Mager, 1968) | Personal control skills:<br>Developing a mental set or value system(krathwohl, et al, 1964); Self-actualisation (Rogers, 1969) |
| Interactive Skills<br>- Dealing with others:<br>(social habits & skills ) | Conditioned social responses (e.g., good manners, pleasant tone of voice, socialised behaviour) | Interpersonal control skills (e,g., leadership, supervision, persuasion, salesmanship) |

As published in Designing Instructional Systems, by Alexandar Romiszowski, London: Kogan page, 1981.

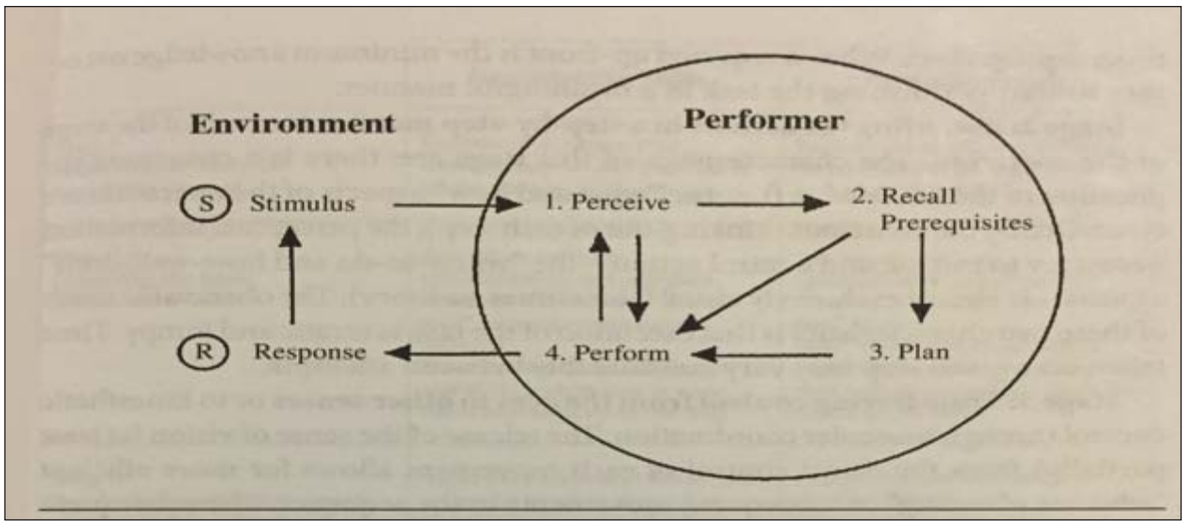


**Fig. 8: A Four-Stage Performance cycle (Romiszowski, 1981)**

## Prospector

There are two types of performance cycles under one condition. One cycle requires the performer to recall the information into his schema and plan the response accordingly. Romiszowski (1981) describes the skills that depend on the recall of a possibly complex but essentially algorithmic procedure and the execution of a series of linked actions in sequence. This type of performance cycle looks for the information residing into the schema (knowledge base) of the performer and requires the performer to design his actions that will produce the right response. The performance loop is "S-1,2,4,R."

In the second type, the context poses a challenge in the prospector's world and the prospector has to construct the right response. This includes knowledge construction through collaboration and discussions to produce the right response. This type of performance cycle is complicated because the performer lacks information and knowledge inhis current schema, and always looks for other support systems that help in producing the right response. The performance loop of this cycle is "S,1,2,3,4,R"; a lot of internal looping is also possible to produce a right response so a cycle like "2-3-2-3-2"could occur.

In the third type of organisation, the analyzer, there are two domains: one is a straightforward performance cycle in which the analyzer wants to create dominance into the current product and market. The second is constructive in which they want to innovate and look for new product and market like prospectors.

The mastery of skills is always based on the real world practice, when the learner performs authentic tasks that are relevant for the learner and the organisation. In productive skills these authentic tasks take a shape of problems to be solved, therefore problem-solving instructional design is best suitable under this circumstance. When this problem-solving process takes the next step as a reflection on the process and the results of execution of the task it calls for discussion approach of instructional design. These are sometimes reality-based and sometimes case-study or stimulation-based, but in all cases they implement skill development through reflective analysis of experience. In the case of development of reproductive skills the instructional approach of problem-solving, discussion, experiential and stimulation is seldom. The performance cycle under reproductive skills calls for direct approach of instructional design.

## Conclusion

The main objective of this paper was to take a step back to evaluate how the field of strategic HRM has a direct impact on organisation performance. Based on this paper and the identification of important gaps in the literature, we have proposed a new way of thinking about the role of human resources being a strategic business partner. Under this paper, all the three parts are very much dependent on each other and the theories we used from different fields will help human resource professionals to understand business and design interventions in the field of performance improvement. We have discussed four types of organizations: defenders, prospectors, analyzers, and reactors and defined the external environment in which all these four types of organizations work. The second part of this paper focused on defining the internal world of organizations through the application of system and sub-system theory and how various sub-system works in all four types of organizations work. The second part of this paper focused on defining the internal world of

organizations through the application of system and sub-system theory and how various sub-system works in all four types of organizations. In the third part with the help of learning and instructional systems, we have defined how to build different internal worlds of organization that are affiliate with the four organization types. For example, in defender kind of organizations, direct instructional approach is more effective because this instructional approach will help defenders accomplish efficiency through repetitive task structure. In the prospector case, the instructional approaches that came from constructivism theory of learning is more suitable like experiential, problem-solving, discussion, and stimulations; these instructional approaches support prospectors by creating an internal world where innovation and creation is the synonym of excellence. While we recognise that this paper has likely generated more questions than it has answered, we are hopeful that it proves useful as we strive to better understand the role of human resources being a strategic partner by providing services in the field of performance improvement that are directly influence the firms bottom-line. When comparing the role of human resources in business with different professions like finance, marketing, and production, we found that HR has more responsibilities. However Interventions in the field of human resources will take a decade to evaluate whereas in different professions (mentioned above) the results are immediate and it's very easy to quantify the ROIs. So why not in Human resources? Why can't we speak the language of business? Why can't we provide direct solutions to authentic business problems? It all can be possible and we have proved in this paper how human resource professionals can solve the critical problems in business with the help of theories in the field of organisation analysis, organisation design, social psychology of organisation, instructional design, and performance improvement.

## References


Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2000). *Manufacturing advantage: Why high performance work systems pay off*. Ithaca, NY: ILR Press.

Bunderson, C. V., Gibbons, A. S., & Olse, J. B. (1981). Work models: Beyond instructional objectives. *Instructional Science*,l-10, 205-215.

Brown, J. S., Collins, A., & Duguid, P.(1989).Situated Cognition and the culture of learning. *Educational Research*, 18(1), 32-42.

Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, J. D. (1991). Theory into practice: How do we think? In G.J. Anglin (ED.), Instructional technology: Past, present, and future. Englewood, CO: Libraries Unlimited.

Becker, B. E., & Huselid, M. A. (1998). High performance work systems and firm performance: a synthesis of research and managerial implications'. In Ferris, G. R. (Ed.), *Research in Personnel and Human Resources. Management*. Greenwich, CT: JAI Press, 165-197.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.

Boxall, P. F. (1996). The strategic HRM debate and the resource-based view of the firm, *Human Resource Management Journal*, 6 (3), 59-75.

Baird, L., & Meshoulam, I. (1988). Managing two fits of strategic human resource management. *Academy of Management Review*, 13(1), 116-28.

Bhattacharya, M., Gibson, D. E., & Doty, D. H. (2005). The effects of flexibility in employee skills, employee behaviors, and human resource practices on firm performance. *Journal of Management*, 31, 622-40.

Chuang, C.,& Liao, H. (2010).Strategic human resource management in service context: Taking care of business by taking care of employees and customers. *Personnel Psychology*, 63, 153-96.

Chang, S., Gong, Y., Way, S. A., & Jia, L. (2013).Flexibility-oriented HRM systems, absorptive capacity, and market responsiveness and firm innovativeness. *Journal of Management*, doi: 10.1177/ 0149206312466145.

Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: the role of human resource practices in the performance of high-technology firms. *Academy of Management Journal*, 49, 544-60.

Delery, J. E., & Doty, H. D. (1996). Modes of theorizing in strategic human resource management: tests of universality, contingency and configurational performance predictions. *Academy of Management Journal*, 39(4), 802-35.

Dewar, R., & Werbel, J. (1979). Universalistic and contingency predictions of employee satisfaction and conflict. *Administrative Science Quarterly*, 24, 426-448.

Ertmer, P. A., & Newby, T. J. (1993). Behaviorism, cognitivism, constructivism; Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly*, 6(4), 50-72.

Gibbons, A.(2001). Model Centered Instruction. *Journal of structural Learning and Intelligent systems*, 14(4), 511-540

Gibbons, A. S., Neson, J., & Richard, R. (2000). Model-Centered analysis process (MCAP): *A pre-design analysis methodology(white paper). Idhao falls, ID: Center for Human – systems simulation, Idhao National Engineering and Environmental Laboratory (DOE)*.

Guthrie, J. P. (2001). High-involvement work practices, turnover, and productivity: evidence from New Zealand. *Academy of Management Journal*, 44, 180-90.

Gong, Y., Law, K. S., Chang, S., & Xin, K. R. (2009). Human resources management and firm performance: the differential role of managerial affective and continuance commitment. *Journal of Applied Psychology*, 94,263-75.

Jonassen, D. H. (1997). Instructional design models for Well-structured and ill-structured problem-solving learning outcomes. *Educational technology research and development*, 45(1), 65-94.

Jackson, S. E., Schuler, R. S., & Rivero, J. C. (1989). Organizational characteristics as predictors of personnel practices. *Personnel Psychology*, 42, 727-786.

Kizilos, M. A., Cummings, C., & Cummings, T. G. (2013). How high-involvement work processes increase organization performance: the role of organizational citizenship behavior. *Journal of Applied Behavioral Science*.doi: 10.1177/0021886313479998.

Lajoie, S. (2000). *Computers as cognitive tools: No More Walls*, Vol-2. London, Lawrence Erlhaum Associates.

Lepak, D. P., Liao, H., Chung, Y., & Harden, E. E. (2006). A conceptual review of human resource management systems in strategic human resource management research'. In Martocchio, J. J. (Ed.), *Research in Personnel and Human Resource Management*. Greenwich, CT: JAI Press, 217–71.

Mayr, E. (1969). *Principles of systematic zoology.* McGraw-Hill, New York.

MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review,* 48(2), 197-221.

McClean, E., & Collins, C. J. (2011). High-commitment HR practices, employee effort, and firm performance: investigating the effects of HR practices across employee groups within professional services firms. *Human Resource Management*, 50, 341-63

McKelevey, B. (1978) Organizational systematics: Taxonomic lessons from biology,24(13), 1428-1440. doi:10.1287/mnsc.24.13.1428.

Merrill,M. D.(2002). First principles of instruction. *Educational Technology Research & Development*, 50(3), 43-59.

Ostroff, C., & Bowen, D. E. (2000). Moving HR to a higher level: HR practices and organizational effectiveness. In Klein KJ, Kowlowski SJ (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 211–266). San Francisco: Jossey-Bass.

Park, H. J., Mitsuhashi, H., Fey, C. F., & Björkman, I. (2003). The effect of human resource management practices on Japanese MNC subsidiary performance: a partial mediating model'. *International Journal of Human Resource Management*, 14, 1391-406.

Raymond, E. M., Charles, C. S., Alan, D. M., & Henery, J. C. (1978).Organizational strategy, Structure, and process. *The Academy of Management Review*, 3, 546-562.

Reigeluth, C. M., & Carr-Chellman, A. A. (2009). *Instructional design theories & models: Building A Common Knowledge Base* (Vol. III). New York: Routledge

Romiszowski, A. J. (1981). *Designing Instructional systems*. London: Kogan page.

Rosenshine, B.V., Meister, C. (1992). The use of scaffolds for teaching less structured cognitive tasks. *Educational Leadership*, 49(7), 26-33.

Snell, S. A., & Dean, J. W. (1992). Integrated manufacturing and human resource management: a human capital perspective. *Academy of Management Journal*, 35, 467-504.

Stolovitch, H.D., & Beresford, B. (2012).The development and evolution of Human Performance Improvement. In Reiser. A.R., & Dempsey, V.J. (ED.), *Trends and issues in Instructional Design and Technology* (pp. 135,139). Boston, MA: Pearson Education, Inc.

Segev, E. (1989). A systematic comparative analysis and synthesis of two business-level strategic typologies. *Strategic Management Journal*, 10(5), 487-505.doi:10.1002/smj.4250100507.

Ulrich, D., & Lake, D. (1990). Organizational capability: Competing from the inside out. Wiley, New York.

Ulrich, D. (1997). *Human Resource Champions*. Harvard Business School Press, Boston, MA.

Vandenberg, R. J., Richardson, H. A., & Eastman, L. J. (1999). The impact of high involvement work processes on organizational effectiveness a second-order latent variable approach. *Group and Organsation Management*, 24, 300-39.

Wood, S., Van Veldhoven, M., Croon, M., & de Menezes, L. M. (2012). Enriched job design, high involvement management and organizational performance: the mediating roles of job satisfaction and well-being. *Human Relations*, 65, 419-45.

Wei, L. Q., & Lau, C. M. (2010). High performance work systems and performance: the role of adaptive capability. *Human Relations*, 63, 1487-511.

Wright, P. M., & Gardner, T. M. (2003). The human resource–firm performance relationship: methodological and theoretical challenges'. In Holman, D., Wall, T. D., Clegg, C. W., Sparrow, P. and Howard, A. (Eds), *The New Workplace: A Guide to the Human Impact of Modern Working Practices*. Chichester: Wiley, 311–28.

Butler, J. E., Ferris, G. R., & Napier, N. K. (1991). *Strategy and Human Resources Management.* Cincinnati: South-Western.

Gibbons, A. S., & Nelson, J. S. (1999). *Theoretical and Practical Requirements for a System of Pre-Design Analysis*. Idaho Falls, ID: Idaho National Engineering and Environmental Laboratory.

Gibbons, A. S., Mcconkie, M., Seo, K. K., & Wiley, D. A. (2009), Simulation approach to instruction. *Instructional-Design Theories and Models,* 3, p.167

Lee, P., & Caffarella, R. S. (1994). Method and techniques-for engaging learner in experimental learning activities. In I. Jzackson & R. S. Caffarella (Ed.), *Experimental learning: A new approach* (pp. 43-54) San Francisco: Jossey Bass

Schuler, R. S., & Jackson, S. E. (1987). Linking competitive strategy with human resource management practices. *In: Academy of Management Executive*, 3, 207–219.

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1978). Organizational strategy, structure and process. *Academy of Management Review,* 2, 546-562.

Katz, D., & Kahn, R. (1978). *The social psychology of organizations.* (2nd ed.). New York: Wiley.

McKelvey, B. (1978). Organizational systematics: Taxonomic lessons from biology. *Management Science*, 24(13), 1428-1440.

Gick, M. L. (1986). Problem-solving strategies. *Educational Psychologist, 21*, 99-120.