DEVELOPING POSITIVE ATTITUDE AND LEADERSHIP SKILLS IN STUDENTS

Ms. Gayatri Chopra

ABSTRACT

Positive Attitude is an umbrella term for a broad spectrum of concepts and approaches that are associated with the psychology behind achievement and success.   For a long time, Positive Attitude has been seen with the traditional view of being just a strategy that would aid people to deal with the problems that occur in their lives; but now a lot of educational institutes have been found implementing programs on fostering Positive Attitude among the students, believing that it is a stepping stone for the development of many other skills. It certainly has been found to aid the quality of learning and achievement amongst the youth. Positive Attitude and Leadership Skills can be imbied in classroom learning through the belief in learned optimism. This paper discusses the concept of Positive Attitude and Leadership, its importance for individual growth and means that could be adopted in the classroom for better results.

Keywords: Education, Students, Leadership skills, Positive Attitude.

I.   DEFINING ATTITUDE

The term Attitude is a very commonly used term in the verbal and written communication effort by humans across the globe. It has been defined distinctively and several times by psychologists around the world. One of the most distinguished definitions of Attitude that has been recognized globally is, "Attitude is the most unique and indispensable concept in contemporary social psychology." (Allport, 1935).Though, Attitude is sometimes common to define Attitude as an affect towards an object; affect (i.e., discrete emotions or overall arousal) is generally understood to be distinct from Attitude as a measure of favorability (Ajzen, 2001).

A.   Components of Attitude

Attitude comprises a blend of three elements:

An affective component: The feelings, sentiments, moods and emotions about some idea, person, event or object.

A cognitive element: The beliefs, opinion, knowledge or information held by the individual

A behavioural component: The predisposition to get on a favourable or unfavourable evaluation of something. (Aswathappa, 2010)

B.   Attitude Measurement Scales

It is important to measure Attitude. It implies the measurement of the 'C' component of the ABC model explained previously in the paper. It is connected to the thinking component of the model. The main techniques that are used to measure attitude are:

·   Self-Report

·   Likert Scale

·   Osgood's Scale

·   Sociometry (Aswathappa, 2010)

C.   Different Perspectives to Attitude

Attitude About Yourself:

–   Hopeful vs. Helpless

–   Dream vs. Doubt

Attitude About Others:

–   Strengths vs. Flaws

–   Accepting vs. Judging

          Attitude About the World:

–   Opportunities vs. Problems

–   Embracing vs. Resisting   (Ursiny, DeMoss, & Ybaben, 2008)

II.   THE CONCEPT OF POSITIVE ATTITUDE AND LEADERSHIP SKILLS

Attitude comprises cognitive, affective, and behavioural constituents. Expectedly Attitude may have some other distinct components, for instance, prominence, inevitability, or approachability (attributes of Attitude strength) and allied understanding and knowledge (Visser, Bizer, & Krosnick, 2006).

To add to it, there is a lot of significance to the inter-attitudinal structure. It primarily connects various Attitudes to each other and fundamental psychological structures, like values, morals and ideology. As per Doob, 1947, learning is responsible for most of the Attitudes we grasp. To understand and comprehend the foundation of Attitude formation it is important to study the ways in which people formulate evaluations and judgement of humans, places and things. Personality of a person remains stable and unchanged unlike Attitude that is expected to modify according to experiences and maturity. In addition, exposure to the 'Attitude' objects may have an effect on how a person's

Attitude is formed. More exposure indicates greater chances of Positive Attitude towards the precise object.

A.   5 Steps for Modification of Attitude

Step 1: **Learn More** – the more you know   confidence   positive Attitude   success

Step 2: **Identify the Pitfalls** – identify unknown factors ⟹   examine fears

Step 3: **Learn Positive Self-Talk** – creates   ⟹-image, level of self-esteem, self-confidence, ur Attitude

Step 4: **Make Daily Affirmations** – repeat your goals daily

Step 5: **Surround Yourself with Positive People** – close your mind to negativity (Carter-Scott 004)

Leadership has been defined as, "A process of social influence in which one person can enlist the aid and support of other in the accomplishment of a common task "(Chemers,1997). There have been other exhaustive definitions of Leadership that have been presented.

 Leadership is also, "Bringing together a team of people for the purpose of a common goal" (Locke E. A., 1991). It is certainly not necessary for the leader to have any kind of formal authority. Many studies of Leadership have brought in the limelight the theories that identify traits to Leadership skills. The many traits that can be associated with Leadership are power, vision, intellect, charismatic personality, functional perspective, behaviour stability, situational interaction, charisma and many more. Most significantly a leader is someone who has the capacity to show the path to others and guide them towards correct decision making and action (Richard & Engle, 1986).

There may be some ambiguity associated with the term "Leadership". It is often presumed that leaders are those people who hold positions at the top and excel in their work. Hence, Leadership is often correlated with strategy and vision. From another perspective, the use of the term Leadership is done to describe the dynamic aspects of the management, particularly linked to the motivation of the team mates or followers and the medium of bringing in change and accepting dynamism. Hence, the term has a puzzling blend of the traits of a heroic leader and a brave soldier. When put in the perspective of management which is quite

a mundane affair , Leadership incorporates terminology such as 'direct' ,'control' and 'resources' (Boyatzis, 1993).

Leaders also play a crucial role management. According to Boyatzis (1993), management has a concern with differentiation and advantage, predictability of results and ability to solve problems. He connects Leadership skills with mission, vision, determination, exhilaration, modification and encouragement. According to Beech, 2003 management and Leadership are intertwined to not separate at work life.

Leadership is both transactional and transformational. In the first kind of Leadership, the leaders make use of the authority in their   hands for accomplishing the tasks (Burns, 1978). In the transformational Leadership, the leaders are able to encourage and generate enthusiasm in the team through motivation (Bass, 1985). With all the confusion and puzzling in context of reaching at a crisp definition of Leadership, the consensus is on training and development activities with the educational exposure and organisations to enrich the skill of Leadership. This however contradicts with the theory of Leadership being an outcome of personality traits (Stogdill, 1974).

Four Key Leader Behaviour
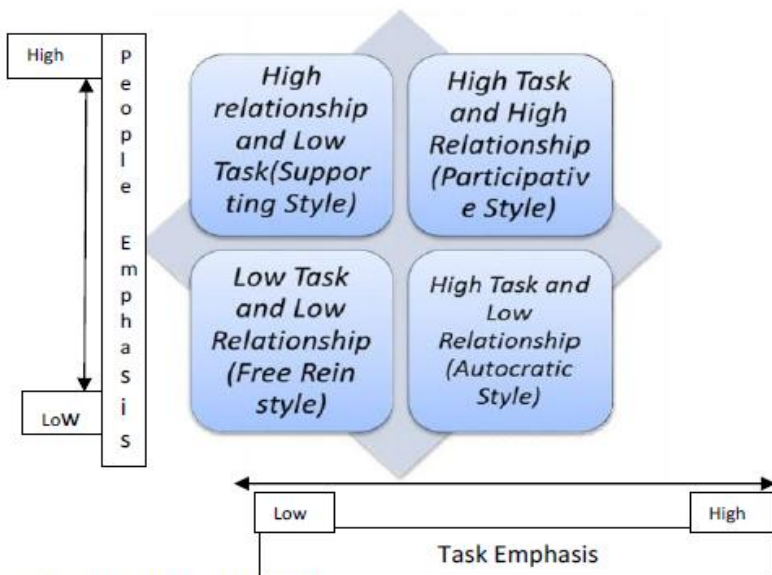
Source: Aswathappa , K(2010)

B.   Attributes of a Leader with Positive Attitude

·   A person of value

·   Creates a positive action plan to meet goals

·   Beliefs – instill these into the people around you – demonstrate through action

·   Provide intellectual nutrition and transform minds (Harrell, 2003).

C.   Leadership Skills and Positive Attitude supports Higher Education and Employability

In the entire arena of education, particularly higher education, encompassing specifically business and management education, there is an increasing focus towards the development of generic skills. These skills have been found useful for working professionals. The term 'Graduate Employability' is often used as a substitute in this regard. A lot of hurdles have been encountered by universities in the context of addressing generic skills and employability in a synchronised manner.
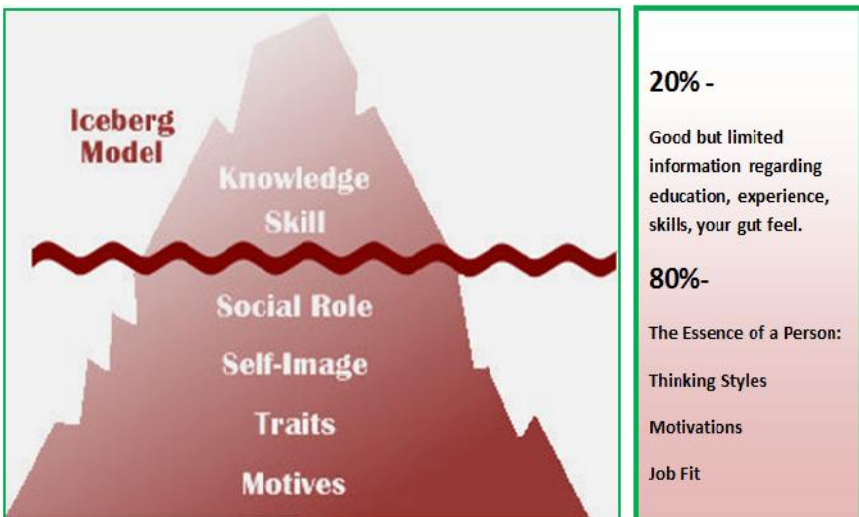
Employability can be influenced by higher education curriculum. Research in this area indicates the connectivity and relationship between the desired outcomes of education (efficacy beliefs and strategic thinking), the key factors (self-awareness, subject knowledge) and the particular aspects of teaching pedagogy and the process of learning (team work, assignments, projects, presentations). Auditing of the aspects of teaching and learning can help in enhancing the opportunities of employability. Lot of leading business schools differ to a great extent in their approach towards supporting practical learning and interpersonal skills .Mostly universities focus more on expertise in subjects like strategy and finance than on awareness and skill of managing other people.
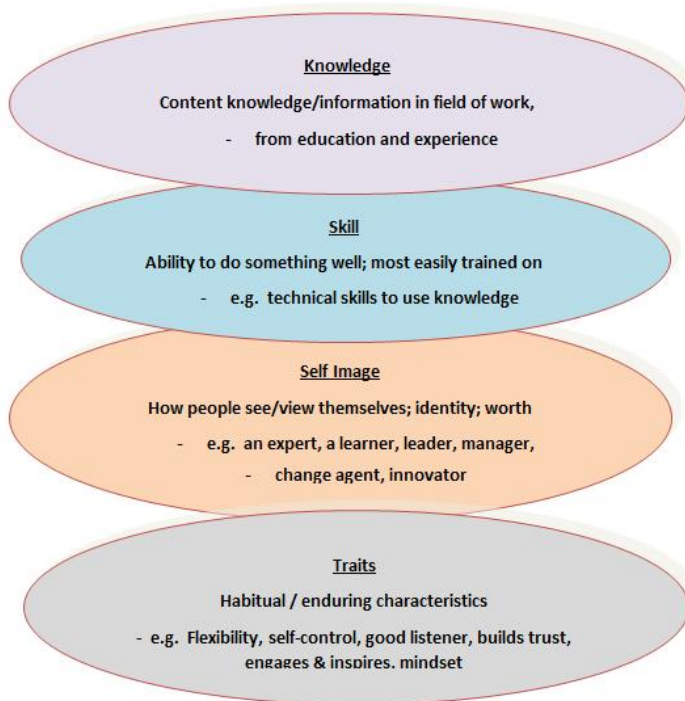
III.   DOES POSITIVE ATTITUDE AND LEADERSHIP SKILLS ENHANCE INDIVIDUAL PERFORMANCE?

"Ability is what you're capable of doing. Motivation determines what you do. Attitude determines how well you do it." - Lou Holtz

The present ideas about Leadership and management have advanced through a lot of decades. Latest addition such as emotional intelligence, club themselves to other ideas such as planning and organising. The aspects of individual performance concerned with giving directions to people and bringing up their motivation are seen as very crucial. Advanced individual performers have shown to have high scores in skills, behaviour and personal qualities. The relationship between capability and management development has been brought on the forefront.

A.   Iceberg Model for Competencies: The iceberg model for competencies explains the concept of competency from the help of an iceberg. An iceberg has just one-ninth of its volume above water and the remaining is underneath the surface in the sea. Similarly, a competency has some constituents which are noticeable like knowledge and skills but other behavioural components like attitude, traits, thinking styles, self-image, organisational fit etc. are concealed beneath the surface.

Knowledge
Content knowledge/information in field of work,
- from education and experience

Skill
Ability to do something well; most easily trained on
- e.g. technical skills to use knowledge

Self Image
How people see/view themselves; identity; worth
- e.g. an expert, a learner, leader, manager,
- change agent, innovator

Traits
Habitual / enduring characteristics
- e.g. Flexibility, self-control, good listener, builds trust,
engages & inspires. mindset

Source: Spencer and Spencer (1993)

Developing both levels of competencies requires taking different routes. The evident competencies like knowledge and skills can be simply advanced through training and skill building exercises, though the behavioural competencies are somewhat challenging to evaluate and improve. It takes more time and effort concentrated exercises, like psychotherapy, counselling, coaching and mentoring, developmental experiences etc. to the underlying competencies.

In the traditional method of employment, most of the organisations observed just the evident constituents of competencies; the knowledge and skills, believing that the behavioural aspects can be enhanced through the right guidance and effective management. However, with major changes in the regular methods of management, the hiring process has also experienced a change therefore a lot of stress is being put on the unseen behavioural aspects as well, to make a comprehensive decision. Hence, a thorough picture regarding the competence of a person comprises both visible and hidden features and it is

imperative to understand both, to arrive at deciding the best person for any job (Spencer & Spencer, 1993).

B.   Importance of Positive Attitude and Leadership in classroom learning

Characteristics of the learner like self-perceptions of ability, often impacts on the response   towards the learning tasks undertaken (Schunk, 1984).

Those students who have a Positive Attitude, ability and zeal to take risks and use effective learning strategies are the ones who have normatively high assessments of their ability. The capacity in which the scholars look forward and approach the assigned tasks , get involved in the process of learning and respond to a specific situation , can be interlinked to their own perceived ability and along with that the perceived goals of the environment.

A structure based on mastery and not performance offers a background that is likely to foster a long term use of the strategies used for learning. It inculcates a belief that success is linked to the efforts put in by self. Likewise, goal setting involvement aims towards encouraging students to set achievable but at the same time difficult and challenging goals. It also requires continuous monitoring. Alterations in the characteristics of the classroom environment offer a feasible way to redirect the students' orientation of goal achievement. Those students who lack in certain skills, are not acquainted with the critical learning strategies and have a poor self-belief may not reap strong benefits from alterations in the classroom structure. To make them develop and polish new skills it may be necessary to provoke adaptive motivational patterns along with modifications in the goal structure of the classroom.

Changing the classroom structure may not help some students who lack certain skills, who are not aware of critical learning strategies, and who, as a result of many accumulated experiences, have adopted a belief that they are not able. Although, these students may need to learn new skills, the classroom structure be modified in such a way that mastery goals are salient and are adopted by students (Ames & Archer, 1988).

Cognitive tasks are systematically influenced by Positive Attitude. As an outcome of a lot of research; the neuropsychological theory proposes that there is a strong association of Positive Attitude on brain dopamine levels. The theory accounts for an impact of Positive Attitude on olfaction, the amalgamation of episodic memories, short term or working memory and creative problem solving. According to the theory , positive affect aids and enhances creative problem solving by increasing the release of dopamine in the anterior cingulate. It works on increasing flexibility and simplifying the selection of the cognitive perspective (Ashby, Isen & Turken, 1999).

Working on the Positive Attitude and Leadership skills from the formative state , across different educational levels , contributes in the performance for economic and social benefit. Still there is scope for more social benefit and more gains to be had from by improving it. What is imperative is that there is the focus on improving the precision in the pedagogy with which skills are imparted and investments are made in the process. The effect of the contribution of Positive Attitude and Leadership skills is manifold and varies from situation to context.

The development programmes for Management and Leadership that have an impact on the performance are conducted either within the campus or close to them. Often mangers and leaders who are in the initial phase of their professional career are exposed to these developmental programmes. To get this kind of effect in classroom teaching is very difficult and challenging, in spite of the fact that the school and university are the talent producing value chain. Education does contribute significantly towards Leadership development, though it is difficult to assess which factors of education contribute the most. It also seems that the impact of education on careers of students is a blend of the general as well as vocational education effect. Offering a signalling and selective pedagogy and fostering individual human capital is an important approach in the field of having more positive and focussed students.

There is a combined positive skills and Leadership capability that has an impact on performance. To tap the best potential within a student, it is required to identify and align individual talent to the process of delivery. Career

management lessons and developing a human bond in order to foster security and efficiency of the learner along with the development of the required skills is needed. Educational bodies should have systems, procedures, traditions and cultures of practicing and understanding the factors that affect performance and what modifications does the dynamism in the society seek for in the youth ready to take charge.

The interpretation of Positive Attitude and Leadership skills should be such that many initiatives are taken up to ensure that the imbibing of the skill is done in a holistic manner. Leadership capacity needs to be enhanced in a collective as well as individual context, not only to impact the students within an educational institution but also organisations, sectors and societies as a whole. A lot of research is inclined towards supporting the above mentioned point; there is still scope and need to understand the practices and approaches that need to be focused upon to enhance Positive Attitude and Leadership skills from the formative stage itself. There is a gap in need identification and action plan to fulfil the need in this field of skill development. Evidence based research would take a step forward in bridging the gap to an extent.

Fox, Dewhurst, Eyres, and Vickers, 2001 in the research undertaken with students, professionals, associations and development specialist brought together their views towards Management, Leadership skills and Positive Attitude. The research stated that the term Management and Leadership were used interchangeably. The students and professionals both felt that for both Management and Leadership skills the common traits to be identified and nurtured are interpersonal skills , relationship building and communication skills. Students along with the trainers identified the need for action and e learning apart from the conventional classroom learning methods. Informal approach to training along with formal learning in an appropriate blend is required. Universities incorporating Attitude and skill development programmes in their curriculum need to devise innovative medium to impart the same.

C.   Classroom Techniques

Alimo-Metcalfe, 1998 pointed out some trends for Positive Attitude and Leadership Skill development. To begin with action learning, cross functional

team work and the role of senior people involving themselves for delivering development through the means of coaches and mentors are few of them. All these approaches have their own subjective role to play as tools for Attitude and skill development amongst students.

a.   Simulations

Simulations have been found useful in teaching different concepts for different kinds of subjects across the globe. From the many types of simulations available , the   most result oriented have been computer based electronic simulation (extensively used for practical application of conceptual knowledge in strategy , sales and marketing) , Role Plays (Useful for nurturing Positive Attitude and Leadership skills) and Project based simulation (Primarily used for understanding complicated business situations)   (Caley, Mason, & Reynolds, 2001). It was found from a study that use of simulation techniques in groups for different kinds of subjects eventually also contributed towards Attitude development and Leadership skills as compared to case studies or other action based learning (Jennings, 2002).

b.   Problem-based learning

Another respected classroom teaching approach, in contrast to conventional learning is, Problem Based learning. It calls for the student to respond in a holistic perspective of a situation, trying to identify clues. Students pick up more from doing, directing their own learning experience and pursuing independent inquiry with a vision to learn. What helps the student to develop confidence in his ability and skills and learn to take charge is the exposure to take into account the complex content of the problem when trying to find the possible solution to it (Savin-Baden, 2001).

c.   Project and action learning

The advent of action learning happened after the Second World War. Reg Revanns (Revans, 1998) initiated the concept so as to be able to offer management development that would have relevance at work place and act as a preparation ground for real life problems faced by professionals. The method brings forth the concept of shared learning that takes place within a group as members cohesively work towards finding the best solutions. Members try to

find solutions to actual problems being faced by them or their counterparts rather than solving case studies or taking up simulation exercises. The chosen topic reflects the real life situations in which young professionals or students are often entangled. Often such situations are complex, unique, contextualised, messy and challenging. This method gives the liberty to bring in all these factors into the equation and then find the best alternative.   Although, over the years, this method has gained a lot of popularity and it has many advantages, such as personal growth, development of Positive Attitude, self-confidence and ability to lead, it can get difficult to find any kind of objective measures to assess this kind of learning. It often focusses solely on individual learning and does not percolate forward towards the growth of the larger audience (De Loo, 2002)

d.   Mentoring of students

More and more stress in the past few years has been laid on mentoring and coaching. It helps at all ends of learning, in polishing the explored talent or even identifying dormant skills and making the mentee aware and more confident. Ford (1991) has argued that self-coaching has the capacity to convert performance to positive performance by allowing individuals to establish their own criteria for improvement. Many researchers have found that formal mentoring scheme has benefits and advantages at the graduate level education to identify and develop skills for entry level jobs. Clutterbuck and Megginson (1999) identify mentoring as encompassing a broad range of support to individuals. The three commonly identified roles that a mentor can play are, Executive Coach (A   limited period help with certain specific skills) , Elder Statesperson (Discussion board and role model) and the Reflective Mentor (Developing and increasing self-awareness for a long duration through the means of constructive challenge) taking care of a wide range of different support to individuals(Schlee, 2000). An example of a study of mentoring students in business schools in the US found enhancement in both the knowledge of the student and their Attitude (Bennis & Thomas, 2002).

A Study in the academic institutes of UK found positive satisfaction at the end of both student and the academician(Stewart & Knowles, 2003).A lot of positive gains were identified in students in terms of their competence and skills in another study (Wales, 2003). With a lot of positive impact and feedback on the

outcomes of mentoring activity, more research is needed to access beyond subjective self-report the benefits of mentoring.

e.   Fostering Creativity

Positive development and creativity are issues that are interconnected. Innovative and creative approaches are always expected to bring in positive changes; simultaneously creativity itself would drive change. Despite that there are varied opinions on what creativity is and how it distinguishes between individuals, it is commonly agreed that creativity can be taught, or at least fostered (Sternberg, 1999). At a fast pace, creativity is becoming an indispensable part of the higher education and there are many perspectives on how it can be best achieved (Dewulf & Baillie, 1999).

IV.   CONCLUSION

"Positive Attitude – The difference between enjoying what you do and simply tolerating it."

It has been estimated that Success is 80% Attitude and 20% Aptitude. Along with the combination of Leadership and Positive Attitude where by the principle says Leaders lead themselves first with Passion, Approachability and Thoughtfulness (P.A.T.). It certainly can be concluded that Positive Attitude and effective Leadership Skills

–   Enrich Personal Life
–   Relationships
–   Career (Harrell, 2003).

A.   Positive Attitude and effective Leadership skills can be developed by the use of some simple steps:

·   Keep Life Balanced
·   Do not Give Up
·   Make the Most of the Situation
·   Engage in Positive Self-Talk
·   Visualize Success
·   Attack Problems Head-On
·   Look for the Bright Side
·   Maintain a Sense of Humor
·   Make Work Fun

·   Accentuate the Positives

Now that a variety of teaching approaches are being used in educational institutions for Attitude and skill development, particularly in the field of positivity and Leadership; different practitioners have distinct opinions on the same. From the varied methods discussed, like, simulations, case studies, action learning and outdoor adventure all have their own individual focus and relevance. There is lack of evidence to prove that any one method is better than the other. All indications insist that the multiple approaches, with the right blend of all the methods will work to give the best results in a more holistic manner, rather than following one single method. No one method but a well-assorted platter of all the methods may do wonders to build, foster and replenish the required skills of Positive Attitude and Leadership in the students through the means of imparting skills and knowledge from the elementary level to higher education.

REFERENCES

1. Ajzen, I. (2001). "Nature and Operation of Attitudes. Annual Review of Psychology , 27-58.

2. Alimo-Metcalfe, B. (1998). 360-degree feedback and leadership development. International Journal of Selection and Assessment, 6, 35-44.

3. Allport, G. (1935). "Attitudes", in A Handbook of Social Psychology. C. Murchison. Worcester: MA: Clark University Press.

4. Ames, C., & Jennife, r. A. (1988). Achievement Goals in the Classroom: Students' Learning Strategies and Motivation Processes. Journal of Educational Psychology, 80, 260-267.

5. Ashby, F. G., Isen, A. M., & Turken, A. U. (1999). A neuropsychological theory of positive affect and its influence on cognition. Psychological Review, 106, 529-550.

6. Aswathappa, K. (2010). Organisational Behaviour : Text , Cases and Games. Delhi: Himalaya Publishing House.

7. Bass, B. M. (1985). Leadership and Performance Beyond Expectations. London and New York: Free Press.

8. Beech, D. (2003). Management and Leadership Competence: A Review of Activities, Behavioural Skills, Personal Attributes and Decision Making Styles. Working Paper. The Leadership Organization. .

9. Bennis, W., & Thomas, R. (2002). Crucibles of leadership. Harvard Business review, 80(9), 39-46.

10. Boyatzis., R. (1993). Beyond Competence: the choice to be a leader. Human Resource Management Review., 3, 1-14.

11. Burns, J. (1978). Leadership. New York: Harper and Row.

12. Caley, L., Mason, R., & Reynolds, J. (2001). How do people learn? Research Report for the CIPD. London: University of Cambridge Programme for Industry.

13. Carter-Scott, C. F. (2004). Ordinary Women…Extraordinary Success. Franklin Lakes, NJ: The Career Press, Inc.

14. Chemers, M. (1997). An integrative theory of leadership. Lawrence Erlbaum Associates, Publishers.

15. Clutterbuck, D., & Megginson, D. (1999). Mentoring Executives and Directors. Oxford: Butterworth Heinemann .

16. Covington, M. V., & Omelich, C. L. (1984). Task-oriented versus competitive learning structures: Motivational and performance consequences. Journal of Educational Psychology, 76, 1038-1050.

17. De Loo, I. (2002). The troublesome relationship between action learning and organizational growth. Journal of Workplace Learning 14(5/6): 245 - 255., 14, 245-255.

18. Dewulf, S., & Baillie, C. (1999). Case: how to foster creativity. London .

19. Doob, L. ,. (1947, May). The Behaviour of Attitudes. Psychological Review, 54(3), 135-156.

20. Ford, R. (1991). Developing Winners: The Importance of Executive Coaching. Human Relations(2), 113-116.

21. Fox, S., Dewhurst, F., Eyres, J., & Vickers, D. (2001). The Nature and Quality of Management and Leadership in the professions: A Qualitative Study. The Council for Excellence.

22. Harrell, K. (2003). The Attitude of Leadership. Taking the Lead and Keeping It. Hoboken, NJ: Harrell, Keith (2003). The Attitude of Leadership. Taking the Lead and Keeping It. Hoboken, NJ: John Wiley & Sons, Inc.

23. Jennings, D. (2002). Strategic management: an evaluation of the use of three learning methods. The Journal of Management Development, 21, 655-665.

24. Locke, E. A. (1991). Goal theory vs. control theory: Contrasting approaches to understanding work motivation. Motivation & Emotion, 15, 9-28.

25. Nicholson, N. (1998, July/August). How hardwired in human behaviour? Harvard Business Review(76), 134-147.

26. Revans, R. (1998). The ABC of Action Learning 3rd edition . London: Lemos & Crane.

27. Richards, & Engle. (1986). 206.

28. Savin-Baden, M. (2001). (Dis)place academics? Staff experience of role change in the context of problem-based learning. Presented at BERA 2001 University of Leeds.

29. Schlee, R. P. (2000). Mentoring and the professional development of business students. Journal of Management Education, 24(3), 322-337.

30. Schunk, D. H. (1984). Self-efficacy perspective on achievement behavior. Educational Psychologist, 19, 48-58.

31. Spencer, L., & Spencer, S. .. (1993). Competence at work: Models for superior performance (Vol. 7). New York: Wiley.

32. Sternberg, R. J. (1999). The creativity paradox: Why everyone and no one seems to appreciate creative work. APA Monitor, 30(7), 17.

33. Stewart, J., & Knowles, V. (2003). Mentoring in undergraduate business management programmes. Journal of European Industrial Training, 27(2), 147-156.

34. Stogdill, R. (1974). Handbook of leadership: A survey of theory and research. New York: Free Press.

35. Ursiny, T., DeMoss, G., & Ybaben, M. (2008). The Top Performers Guide to Attitude. Essential Skills That Put You On Top. Naperville, IL: Sourcebooks Inc.

36. Visser, P. S., Bizer, G. Y., & Krosnick, J. A. (2006). .Exploring the Latent Structure of Strength-Related Attitude Attributes. Advances in Experimental Social Psychology. Advances in Experimental Social Psychology, 37, 1-67.

37. Wales, S. (.-2. (2003). Why coaching? Journal of Change Management, 3(2), 275-282.

ABOUT AUTHOR

Gayatri Chopra, Assistant Professor, Gitarattan International Business School, Delhi. With MBA in Marketing, UGC NET Qualification and over 10 years of Corporate and Academic experience with exposure to media, training and management education. Working as Assistant Professor with Gitarattan International Business School, Delhi, affiliated to Guru Gobind Singh Indraprastha University, Delhi.   Have nine publications in conference proceedings of National and International recognition. With specialisations in areas of Marketing with specification to consumer behaviour and retailing are the key areas of research interest.