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FEATURE

Professional Learning Styles and Workplace Performance: An Exploratory Descriptive Study in Higher Education

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Abstract – *Higher education is no longer seen as optional in today's society due to the rapid changes experienced in our global economy. Lifelong learning is expected if one is to keep up with the times. Because of this, schools need to change their focus from teaching to learning, and teaching students how to learn on their own. Professionals have been categorized as either Self-directed learners, or Directed learners. This study describes both learning styles and analyzes data on a large group of graduate students to reveal typical patterns of learning styles among a group of graduate students in northern Mexico. Self-directed learners are found to do better in the workplace, which brings up questions for higher education as to how to produce students who will be more self-directed.*

Higher education has become a crucial requirement nowadays, because the global knowledge society is changing the structure of the labor market and economy at international, national, and local levels.

The globalizing age has had an impact on education at the macro and micro level, including classroom instruction, both in teachers' teaching methodologies and in individuals' approaches to learning. Field (2003) states that "higher education is in the process of transition, even transformation….The tension between continuity and change, stagnation and revolution, is at the heart of the present dilemma" (p. 20). This transition in society affects the way schools need to teach, since, as Knapper (1985) observes, "continuous change requires continuous learning" (p. 21).

In the past, professionals could perform at the same workplace throughout their entire career, doing the same assignments and using the same skills. The 21st century workplace, and those of the future, will need employees that can make a difference at their place of employment by engaging in and taking responsibility for a continuous endeavor of lifelong learning. These "changes to

the nature of work mean that employers seek new skills and qualities in graduates…. They seek people who can cope with flexibility and change and who are capable of applying knowledge to unfamiliar contexts" (Mcnair, as cited in Bartlett, 2003, p.172).

According to Wiles (1999), the US Department of Labor argued that "to compete in the new world market, business must have highly educated and motivated workers, therefore schools should prepare workers for the world beyond school" (p. 50). This implies that classroom inquiries and methodologies of both teaching and learning have to be connected with workplace performance, in order to make learning useful, empowering and successful. However, according to Wiles (2002) "the primary truth that will guide such inquiry is that the center of learning has shifted from the teacher to the student" (p.8). Fink (2003) explains that "a paradigm shift in higher education pedagogy has taken place. Institutions are thinking less about providing instruction (the teaching paradigm), and more about producing learning (the learning paradigm)" (p.17).

In the face of all these changes in both learning and teaching, the following questions arise:

1) How can institutions of higher education prepare students for success in the workplace?
2) Which learning style preferred by professionals in continuing education is most likely to facilitate the development of skills and attitudes that will enable the intentional, self regulated/self directed learner to prepare for life and work in the 21st century?
3) Which learning style is more likely to be adapted from learning at school to learning at the workplace in order to meet the challenges that call for lifelong learning?

According to Knowles (2005), when considering adult learning, people are divided into two different groups. The first group assumes the initiative over their own learning. They are called proactive learners. These individuals take the initiative to learn with or without external aid in diagnosing learning necessities, and formulating goals. They are more intensely motivated, have better retention, use more efficiently what they learn, and have a purpose while doing so. In the second group we find individuals that passively sit at their teacher's feet waiting to be taught. They are known as reactive learners.

There are three kinds of knowledge that students in this age of technology need to handle efficiently in order to be successful in any endeavor of real life performance. These are: 1) cultural knowledge, 2) specialization knowledge, and 3) strategic knowledge (Chan & Cole,1986; Wong, 1985, both as cited in Gaskins & Thorne,1999).

The difference in achieving success between any two students or professionals who start out with the same intellectual capacity is their ability to make use of strategies for learning, thinking, and solving problems. Good students are aware of the factors that impact learning and know how to initiate a set of learning strategies. Underachieving students need explicit information and external aid to control the learning variables. They don't control factors that affect learning (Gaskins & Thorne, 1999).

Hiemstra (1994) divided adult learners into two styles of learning: the *self-directed learner* (independent learner, or self regulated learner), and the *directed learner* (dependent learner). Hiemstra also observed that for adult education and learning in the workplace, the pattern of learning is better with self directed learners, which is also more common. The term *self-regulated* is used "to describe learners who are metacognitive, intrinsically motivated, and strategic. . . .These learners have the ability to effectively manage [their] learning, which leads to success in and beyond school" (Perry, Phillips, & Hutchinson, 2006, p.238).

Directed learners (also called dependent learners) need an authority figure to give them explicit directions on what to do, how to do it, and when to do it. For these students, learning is teacher-centered; here teachers are in control of student learning. Either these students treat teachers as experts who know what the student needs to do, or they passively slide through the educational system, responding mainly to teachers who "make" them learn. As Knowles (2005) states, "the teacher/trainer is expected to take full responsibility for making the decisions about what is to be learned, how and when it should be learned, and whether it has been learned. The role of the learner is to carry out the teacher's directions passively" (p.293). Winne (as cited in Perry, Phillips, & Hutchinson, 2006) puts it this way: "they struggle to construct accurate representations of a task's demands and lack the knowledge and skills they need to effectively manage their learning" (p.293).

Self-directed learners set their own goals and standards for the learning task they confront, with or without help from experts: these learners are able to make adjustments for their learning, direction and productivity. They exercise skills in time management, project management, goal setting, self-evaluation, peer critique, information gathering, and use of educational resources.

Brookfield (as cited in Cranton, 1994) analyzed the concept of self–directed learning, pointing out that "many learners within formal courses, classes, and programs have stubbornly resisted the efforts of educators to transfer control over learning to them. He states that 'it is crucial that we do not blindly accept the orthodox view that self direction is the preferred mode of learning in all cases for adults'" (p. 729).

Taking into account prior research done in adult learning styles in continuous education for development at the workplace in an informal educational setting, it is clearly noted that self directed learning is preferred over directed learning. According to Knowles (as cited in Hatcher, 1997), by "2020 all learning from elementary school through postgraduate education will be based on the principles of self directed learning" (p. 37).

As society goes through these substantial changes, higher education institutions need to take a look towards how schools are meeting these demands in the "learning age." The linking of school and workplace in relation to the student approach to learning becomes one of the great challenges of education. As David Blunkett, then Secretary of State for Education, wrote:

> The challenge we face to equip individuals, employers and the country to meet the demands of the 21st century is immense and immediate. In the information and knowledge based economy, investment in human capital—in the intellect and creativity of people—is replacing past patterns in plant, machinery and physical labor. To continue to compete, we must equip ourselves for this new world with new and better skills. We must improve levels of knowledge and understanding and develop the adaptability to respond to change. (As cited in Bartlett-Burton, 2003, p.149)

The issue around these has to do with autonomy, accountability, and responsibility, both of the institution as a whole, as well as the learner by himself.

This study seeks to explore the preferred learning style of adult learners in a formal institutional setting. These students are professionals receiving continuing education at an institution of higher education. An attempt was made to identify and explain the relationship between learning related factors of learning styles of professionals: self -directed learning or directed learning, and the workplace.

The Problem

The basic question is: Is there a connection between a professional's continual learning style: self directed learner (SDL) or directed learner (DL), in the school and the workplace setting?

Purpose of the Study

The main purpose of this study was to determine:

1) Which style of learning strategies are professionals able to transfer from the school setting to the work setting?

2) Which learning style of professionals in continuing education links with the strategies that the work place requires for job performance?
3) What is the profile description of the SDL and the DL attending a higher education institution in Mexico during the 2004 summer courses?
4) Which learning-related factors in school link to learning-related factors in the workplace (for SDL and DL, in personal planning, motivation, group participation, problem solving,, and reflection)?

Method

The subjects consisted of 422 professionals registered as students for summer courses on the main campus and two extension sites of an institution of higher education in the country of Mexico. Eighty-four percent of the population sampled (365 students) returned useable questionnaires.

An instrument with related factors, such as personal planning, motivation, problem solving, reflection, group participation, and workplace performance was developed to assess 1) whether the student's self-perceived learning style was a) self-directed or b) directed and 2) how students perceived their learning style in the workplace.The instrument consisted of three sections:

Section one addressed background factors in three dimensions: demographic, workplace experience, and personal.

Section two included 64 factors that described the two major approaches to learning and the workplace. Scores were based on the following Likert scale: Never (1); Rarely (2); Seldom (3); Often (4); Always (5).

Section three ??????????????????????????????????

Data Analysis

The validity and reliability of the instrument was ascertained in different ways. It was reviewed by experts to insure the pertinence of the content, and appropriateness of the instrument, as well as the clarity and understandability of each criterion. It went through the process of pilot testing; finally each section reported Cronbach's Alpha values in the acceptable range.

A factorial exploratory analysis relating to the validity and reliability was applied to all 64 statements. The general equation of the sample was deemed adequate (*KMO=0.828*); also Bartlett's Sphericity was found to be significant (*p=0.000*). Therefore the sample and the behavior of the variables allowed an exploratory factorial analysis.

When considering all of the 64 declarations it can be seen that the indexes of the equation of the sample of each value had acceptable variables (MSA>0.5).

The commonality (the quantity of common variance) of all the declarations was over 0.5, which also was acceptable. The data was sufficient to be able to do the exploratory factorial analysis (EFA).

After the analysis was applied and the rotation of VARIMAX completed, three of the variables did not group satisfactorily with the factors identified, so these variables were separated from the analysis.

Research data was analyzed with descriptive statistics including: frequencies, percentages, means and standard deviation. The hypothesis was tested using Pearson's Product-Moment Correlation, and Spearman's and two-tailed Pearson's Correlation. Tables 1-4 present the findings based on the instrument used.

Table 1
Perceptions of Professionals Background Factors

Demographic background items	Workplace experience background items	Personal background items
Gender	Percent of knowledge learned in school applied at workplace	Personal life project
Academic degree obtained	Institution with greatest impact on learning applied at workplace	Percent of help needed from teacher to learn
Major		
Years of working experience		

Table 2
Respondents' Demographic Background Factors

Gender	191 male (52.3%), 167 female (45.8%)
Major	50% education 12.5% theology 12.5% engineering
Academic degree pursued	37% bachelor's degree 50% master's degree 13% doctoral degree
Years of experience	36% from 1-5 years 17% from 6-10 years 10% 11-15 years 37% other

Table 3
Experience Background Factors

Impact of Institution	35% impact by school 33% impact by home 27% impact by work
Knowledge learned and used	228 (61%) 80 to 100% 79 (26%) 50 to 75% 41 (13%) 10 to 45 %

Table 4
Personal Background Factors: Approach to Learning

Needed some help	54% needed some help
Needed much help	35% needed much help
Needed no help	4.4% needed no help
Personal Project	96.4% stated having a personal life project

The professional's typical background factors (see Tables 2-4) were described male, Education majors, within the range of 1-10 years of working experience, pursuing a Masters' degree, SDL, with the need of some help in learning. A surprising feature was that a great majority of participants responded positively to having a personal life project. School had the greatest impact, followed by home, then a transfer to the workplace where they continued to learn. They also indicated that they were able to carry the knowledge learned at school to the workplace and use it effectively. Although most professionals described themselves as SDL, only 4% of all respondents fell into the range of total SDL.

SDLs can be identified as highly reflective learners (see Table 5) who, according to the scale, range on the continuum between often and always. When learning, they see themselves "often" as self motivated, able to solve problems, design personal planning, and taking responsibility for learning in the school setting. However, they describe as 'seldom to often' their 'setting of personal strategies for learning.' This evidence suggests that in the process of becoming an SDL, there is need for teacher's help in gathering information that requires learning.

DL respondents (See Table 5) described as 'seldom to often' personal and group participation strategies. Their personal style of learning requires having an external assistant (outward support), from educators and peers to learn in the school setting. The DL accepts being guided, relying on others to be the responsible ones. The DL is not highly motivated, lacking that inner force that moves towards personal responsibility for learning.

Table 5
Learning Strategies Prominent among Professionals (SDL, DL), Using a Likert Scale: Never (1); Rarely (2); Seldom (3); Often (4); Always (5).

Self-directed learner	X	SD	Directed learner	X	SD
Personal plan	4.0294	.56665	Personal plan	3.0139	1.06988
Motivation	4.0060	.50224	Motivation	2.5901	.69319
Personality	3.7915	.52424	Personality	3.8488	.61062
Problem Solving	4.0120	50146	Problem solving	2.4903	.68218
Reflection	4.5042	.59004	Group work	3.8106	.70537
Self directed learning	4.0373	4.0528	Direct learning	3.2119	.48308

SDL Description of Learning Strategies
in Learning-related Factors

The instrument was organized by learning–related factors like: 1) personal planning, 2) motivation, 3) problem solving, 4) reflection 5) personality, 6) group participation, 7) self-directed learning, 8) direct learning, and 9) workplace performance.

For the SDL, descriptors of personal planning reveal that planning is an important learning-related factor (see Table 6). Planning includes:

1) Recognizing weaknesses, strengths, and values
2) Establishing goals for a period of time
3) Monitoring time for obtaining personal goals

Table 6
Personal Planning Descriptors of SDL

	X	SD
I manage my time according to my personal goals and plans	4.03666	74887
I value my progress in the light of a plan that I developed personally as a means of reflection	3.9239	84196
My self evaluation is based on objectives and strategies that I have chosen for myself	3.9437	84852

table continues

Table 6 (*continued*)
Personal Planning Descriptors of SDL

	X	SD
I establish realistic learning goals for a given period of time	4.0446	74984
I plan (program) my learning activities	3.9278	.82124
I am aware of my weaknesses, my personal strengths and my values	4.3603	71109
My performance is based on personal planning	3.9361	83371

The SDL's motivation to learn can be described as:

- Finding time to learn what is new, interesting, and useful
- Seeking out opportunities to learn
- Engaging in learning new things personally

Table 7
Self-directed Learning, Motivation

	X	SD
I like to learn new things by myself	4.0611	81875
I love to learn on my own	3.8843	79907
I keep up to date with changes in my professional field	3.8983	85216
I look for opportunities to learn	4.3020	71312
I establish personal goals as I learn	4.0577	77458
I have fun while I learn	4.1977	74164
I can look back on a learning project and describe what I have learned	4.0168	78483
I find time to learn what is new, interesting, and useful	4.0083	.83828

Personality traits for the SDL(see Table 8) reflect the lowest means among all traits, "I can learn by myself almost all the things I need to learn" followed by "I can access the information I need without help." Both deal with taking control of learning in regards to selecting and gathering information (as a learning action).

Table 8
The Self-directed Learner: Personality

	X	SD
I enjoy solving problems by myself	4.0111	81071
I can learn by myself almost all the things I need to learn	3.5324	71456
I can identify problems that are obstacles to my learning	3.8134	77456
I can access the information I need without help	3.5207	82869
I prefer to structure my own learning process	3.7017	86767
I can identify the changes in my life throughout the time	4.1755	80839

To an SDL, problem solving skills (see Table 9) are mostly observed when applied to new learning situations and opportunities. These new situations are precisely what empower SDLs to transfer learning in a school setting to solving problems at a workplace setting. This is combined with skills in using resources to solve problems.

Table 9
Self-directed Learner: Problem Solving

	X	SD
I can anticipate potential problems and think of ways of avoiding disasters	3.6787	.86719
I can keep a balanced perspective when facing difficult challenges	3.8167	.77189
When designing an action plan, I consider the goal and possible obstacles in achieving them	4.0710	.77206
I organize myself taking into account available resources	4.1899	.71121
I reflect frequently on my activities and on what I have learned	4.0696	.73473
I apply what I have learned to new situations and opportunities	4.2312	.67230

SD's have a clear sense of self identity, vision, a sense of mission, values, and an objective in life for both the present and the future are skills and attitudes needed by lifelong learners in order to be empowered and in order to transfer learning from the school setting to the workplace setting. These traits are ranked the highest by the SDL (see Table 10).

Table 10
S*elf-directed Learner: Reflection*

	X	SD
I like to think about the future	4.5042	.71251
Thinking about who I am, what is important to me, where I am and where I am going is very important for my education	4.5084	.71251

DL's perceived strategy for learning

DLs are shown to have low motivation in striving for the personal inward force to learn. Mainly, they do not move forward without group help in establishing goals and evidence of what is to be learned. Applying what has been learned is implemented between 'rarely and seldom' (see Table 11).

Table 11
Direct Llearner Motivation Criteria

	X	SD
It is difficult for me to show evidence of what I have learned	2.3333	1.06867
I tend to remain stuck in the past, it is hard for me to move forward	1.9443	1.05556
It is hard for me to apply what I have learned to new situations and opportunities	2.6852	.99078
When working in group, I prefer that others establish learning goals	2.7822	.93764

The DL learning patterns describe a personality (see Table 12) that finds it easy to ask for help in order to learn. The DL describes him/her self as one who is always in need of some external support to be able to perform what is needed to learn.

Table 12
DL Personality

	X	SD
I seek the help of others to learn	4.1250	.81657
I seek help to solve learning problems	3.7380	.85476
When I do not understand something, I seek the help of others	4.2584	.79828
I need help to know what I need to do to learn what I need to learn	3.2556	1.02407

Learning in groups is a special trait of the DL, because it is a way to receive help from classmates and members in the group (see Table 13).

Table 13
Direct Learner: Group Participation

	X	SD
I prefer learning in group with classmates	3.4738	.96127
I love to participate in group learning activities when I am asked to	4.1413	.82965

The DL is more likely to be rigid in acting, with less ideas of implementing various alternatives and strategies. He/she is more likely to stick with the initial decision (see Table 14).

Table 14
Directed Learner: Personal Plan

	X	SD
I keep my plan unaltered, once it is made, even if a better opportunity turns up	3.0139	1.06988

Learning Approach Preferred by Professional Students in School

The learning approach which was preferred by the students during summer school was indicated by the responses given by the statements with 80% or greater frequency.

SDL responses:

- I seek learning opportunities (80%)

- I am sure what the purpose of my life is (92%)
- I know what my best way of learning is … (85%)
- I can identify the problems that are obstacles (hazards) to my learning process (82%)
- I love to think about the future (89%)
- I want to learn more to continue growing as a person (91%)
- Learning how to learn is very important for me (92%)
- I stay under control when difficulties arise (85%)
- I frequently reflect on how and what I have learned (89%)
- I know my weaknesses and my strengths (81%)

DL

- I enjoy interacting with a facilitator in my learning experience (92%)
- I prefer to learn in a group with my peers (82%)
- Whenever I do not understand something I seek assistance from others (94%)
- Once I establish my plan, it remains firm even though a better opportunity may arise (90%)
- I seek help to solve problems in my learning process (93%)

Guglielmino (1977) developed and performed a factor analysis of the results of their instrument and reported the following eight factors that are common for the SDL:

1) Love for learning
2) Effective self-concept as an independent learner
3) High tolerance of risk, ambiguity, and complexity in learning
4) Creativity
5) View of learning as a lifelong, beneficial process
6) Take initiative in learning
7) Self-understanding
8) Acceptance of responsibility for their own learning.

Learning Approach Style of Professionals

Professionals saw themselves as proactive, professional students. Oddi's Continuing Learning Inventory (OCLI), uses a theoretical framework based on "personality characteristics of individuals, whose learning behavior is characterized by initiative and persistence in learning over time through a variety of modes" (1985, p. 98). Oddi identified three clusters that she

hypothesized to be essential personality dimensions of self-directed, continuing learners. These dimensions include:

- *Proactive Drive versus Reactive Drive*—"the ability to initiate and persist in learning without immediate or obvious external reinforcement" (p. 98);
- *Cognitive Openness versus Defensiveness*—"openness to new ideas and activities, ability to adapt to change, and tolerance of ambiguity" as opposed to "rigidity, fear of failure, and avoidance of new ideas and activities" (p. 99); and
- *Commitment to Learning versus Apathy or Aversion to Learning*—while many individuals enjoy learning for its own sake, there are also individuals who have little interest in learning involvement. Those who fit the personality dimension of self-directed continuing learners generally fall into the former category (p. 76).

Research Hypotheses

Hypothesis one

A relationship exists between professionals' self directed learning approach at school and workplace performance.

The hypothesis was tested using Pearson's correlation with a 0.05 level of significance. The hypothesis was sustained. Table 15 shows the data of the correlation between self directed learner and workplace performance.

Table 15
Correlation Between Self-directed Learner and Workplace Performance

		SDL	Workplace performance
SDL	Pearson correlation	1	.652**
	Sig. (2-tailed)	x	.000
	N	292	265

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis two

A relationship exists between professional's direct learning approach to learning at school and work place performance.

The hypothesis was tested using Pearson'scorrelation with a 0.05 level of significance. The hypothesis was not sustained (see Table 16).

Table 16
Correlation *Between DL and Workplace Performance*

		DL	Workplace performance
DL	Pearson correlation	1	.296**
	Sig. (2-tailed)		.000
	N	330	292

**Correlation is not significant at the 0.01 level (2-tailed).

Linking learning style and workplace performance

A Scatter plots of self-directed learners and workplace performance, and directed learners and work place performance show the difference between each learning style and the workplace (See Figures 1 and 2). The statistical result reveals a significant relationship between self directed learning at school and workplace performance.

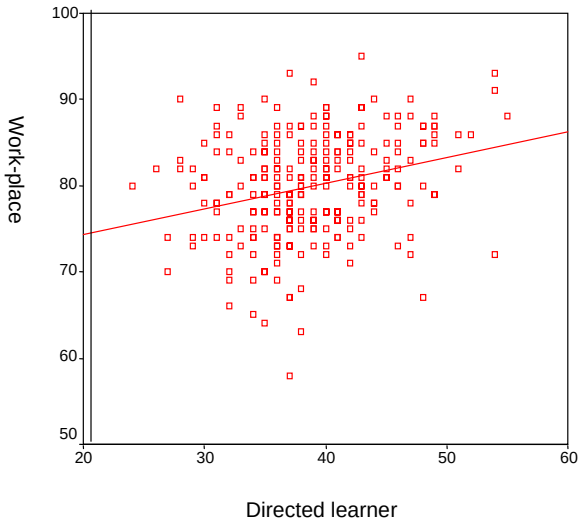

Figure 1: The directed learner and workplace performance.

Discussion

This study explored the following questions: 1) Which style of learning strategies are professionals able to transfer from one situation to another, from the school setting to the work setting. 2) Which learning style links professionals in continuing education with the strategies that the work place requires for job performance? 3) What is the profile description of the self directed learner and the directed learner? The findings reveal the relevant features of both styles of learners, self directed learner and directed learner, as perceived by professional students in continuing education.

Profile of the Self Directed Learner

According to the results of this study, the self directed learner (SDL) has the following characteristics:

1) *The capacity of self motivation.* A consistent finding in this study describes the SDL as having an internal drive to learn. They seek opportunities to learn; they love to learn. They enjoy learning and this learning is transferred to their workplace. This evidence of motivation to learn at the school setting was also present in the workplace setting, in terms of motivation to perform, and to apply what has been learned during school. Costa (2004), when referring to the self-directed learner, suggests:

> These are characteristics of peak performers, whether they are at home, school, athletic fields, organizations, the military, governments, churches or corporations. They are the ones who make marriages successful, continual learning possible, workplaces productive and democracies enduring. (p.6)

2) *The capacity of reflection.* "Probably the most important skills for today's rapidly changing workforce are skills in self-reflection. The highly motivated, self-directed learner with skills in self-reflection can approach the workplace as a continual classroom from which to learn" (Weaver, 2005, p. 571). Weaver adds that "classrooms are the workplace for instructors and students, where statuses are defined, goals and tasks are laid out, and rules are specified" (p. 571).

   Self assessment is another SDL trait relevant in this study. SDL learners continually reflect, assess, and monitor their personal identity and they have the capacity to state personal goals and practice monitoring during their study years. They continue to do so at the workplace. The study reveals that SDL self assessing includes: who I am (individual identity), what is important to me (individual emotions, beliefs and values), where I am (individual goals, purpose, and mission), and where do I want to reach (individual vision).

The capacity for reflection, self assessment, and self monitoring, both in the learning place and in the workplace, encourages ownership of the task to be done anywhere. Most likely, these are workplace skills. Costa (2004, p.22) states: "SDL are reflective individuals that consider alternatives and consequences of several possible directions prior to taking action.

3) *The capacity to plan.* This study reveals the SDL's capacity to plan. SDLs plan their goals, plan time, plan strategies for actions, and plan learning activities during their study years. They plan the future and plan their life. At the workplace, planning also involves learning with special purpose and vision. Costa (2004) explains that "probably the major components of metacognition are developing a plan of action, maintaining that plan in mind over a period of time, then reflecting back on and evaluating upon its completion" (p.27).

4) *The capacity to solve problems.* The study reveals that the SDL's capacity to solve problems relies on applying what is learned to solve problems and by making use of resources available. Costa (2004) describes SDLs as

> Those who, rather than avoiding problems, enjoy them and even seek out problems to solve.... They consciously monitor the effectiveness of their problem-solving strategies and enjoy inventing alternatives if they find them lacking. They monitor the clarity of their goals, the accuracy and fidelity of their products, and the effectiveness of strategies they employ to resolve their problems and achieve their goals. (p.20)

At the workplace SDLs also gave evidence of solving problems by taking action, seeking out information and discovering information needed to carry out responsibilities.

5) *A perseverant personality.* This study reveals that the SDL's personality manifests perseverance in striving towards learning, solving problems, overcoming situations, and addressing changes at the workplace. The same perseverance was continued, however with less strength, when compared with other strategies of learning. Costa explains that SDLs

> Are people with a sense of deliberativeness: they think before they act. They intentionally form a vision of a product, plan of action, goal, or destination before they begin. They strive to clarify and understand directions, develop a strategy for approaching a problem and withhold immediate value judgments until fully understanding an idea. (p. ???)

An intriguing finding is that respondents who described their learning styles as SDL, when asked how much help they need to learn, only 4% responded that

they needed no help, while 54.5% said they needed a little help. This information gives evidence of the work that needs to be done at the school level and in the classroom: to provide opportunity for professional students to be able to develop complete SDL skills.

Directed Learners

The study reveals that 35% of respondents describe themselves as directed learners. DLs are students that seek group participation for learning. They are low in internal motivation and do not take charge of their learning process—they do better when someone is responsible for their learning. They need someone to monitor their learning, and they are comfortable when this happens.

Teamwork, cooperation on the job, and pair collaboration is a strong descriptor of DL. This is seen in different ways: the capacity to share responsibility with others, and the capacity and willingness to help.

Summary of Findings

Major findings:

- Learning-related factors at school have a connection to learning-related factors of workplace performance.
- The learning approach of self-directed learners relates strongly to learning-related factors of workplace performance.
- The outstanding SDL skill is self-reflection.
- Professionals with an SDL style have the capacity of self-motivation and they plan their agenda to meet the demands and challenges of learning in the school setting. This is later transferred to the workplace.
- SDL's transfer to the workplace is a proactive approach to continuous learning for problem solving and workplace learning strategies. As Hiemstra (1994) stated: "Self-directed learners appear able to transfer learning, in terms of both knowledge and study skill, from one situation to another" (p.___?)
- DL's has the ability for team work, to facilitate relationships among the team, and to serve as one who is willing to help.
- DL's are in need of external help while learning. At the workplace DLs are more likely to share responsibilities rather than to lead out.
- DLs enjoy group activities, being involved, participation, and more team-collaborative-cooperation patterns of addressing the workplace and its demands.
- The learning modality of professionals in the school setting empowers employee capacity of performance on the job site.

A review of literature reveals:

- That changes are being made in the classroom, from teacher-centered to student-centered education; from the paradigm of teaching to the paradigm of learning.
- That DLs are motivated to learn primarily by external pressures, like teachers/trainers or employers.
- That SDLs want to take responsibility for their learning, and their own lives, including planning, implementing, and evaluating of their learning.

Other findings reveal:

- Workers with fewer years of experience in the work place have a higher motivation to return for continuing education at higher education institutions.
- Experience in the work place is a motivator for continuous learning to meet the demands of the workplace.
- All three institutions: school, home and the workplace, help in shaping a professional's learning profile and personality.

Table 17
Parallel Descriptions of SDL and DL Characteristics

SDL	DL
1. SDL are highly motivated. They possessed an inward drive to learn, and this was transferred to the workplace with the commitment of continuing learning on the job place. They set personal goals and outcomes.	1. DL learners are externally motivated. They rely on others such as teachers or group members to provide positive feedback to be able to keep their interest focused on learning in school and the workplace. They need to be encouraged.
2. SDL are learners with a clear identity who take responsibility for their personal learning.	2. DL are learners that are confident with others taking the responsibility for their learning and professional development.
3. SDL personality shows perseverance in the continued effort to learn, to solve problems, and to move towards their goals.	3. The DL personality is less confident of own self, and look to others to stand behind them to be able to succeed.

4. SDL professionals are thinkers, doers and performance oriented.	4. DL professionals are sociable, easy to work with, and willing to help in producing.

Conclusion

According to Weaver (2005) classrooms are like workplaces. "The college classroom, like any other workplace, is a social organization where power is asserted, tasks are assigned and negotiated, and work is accomplished through the interplay of formal and informal social structure" (p. 579). Schools are called to engage students at an early point in time in a learning setting, in learning styles that will empower them for success in their lifelong career. When educators encourage an approach to learning like SDL, this will help learners anticipate real life work settings, and it is likely to help them transfer both their learning and their developing ability to learn from the school setting to the workplace setting.

Recommendations

1) Institutions as a whole need to redesign their curriculum at the institutional level, shifting the focus from teaching to learning.
2) Innovative strategies are needed in classrooms today to meet the needs of both styles of learners: for the SDLs to become full SDLs, and for the DLs to begin the process of changing their style of learning.
3) Institutions at all levels need to provide opportunities for educators to learn how to empower students with the skills of SDL.
4) At the classroom level, students should be encouraged to organize their student life by learning to plan their own personal development.
5) All students should be encouraged to develop their own philosophy, vision, mission, goals, and objectives in their life, career and service. No student at any academic level in the 21st century should leave school without being able to develop a vision of his/her future.
6) Students need to learn how to plan, organize, and effectively use time. The student body should be helped to develop ways to control their time and given opportunities to practice and experiment with self-management.
7) Incorporate learning skills, how to think, how to asses oneself, and how to become responsible for one's learning is the challenge for educators and students at all levels.

Implications for Educational Institutions

How can institutions as a whole, and teachers at the classroom level help students from the early years to learn how to learn? At all levels, educational institutions should consider revising the curriculum to provide opportunities for students to go from perceiving themselves as dependent, or reactive learners, to becoming more self-directed, proactive students, professionals and workers. At the teaching and learning level, educators should consider utilizing innovative teaching methodologies which will encourage students to take more initiative and responsibility for their own learning.

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