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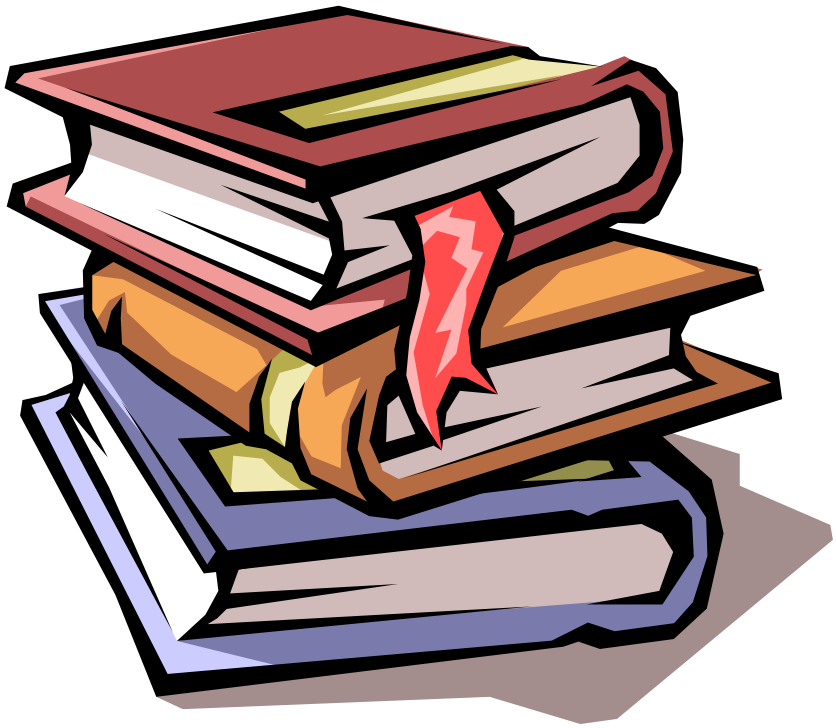

## Professional Development of Principals

Societal changes have stimulated new pressures on schools and those who lead them. Technology, demographic shifts, redefinitions of "family," testing and accountability, decentralization and site-based management, violence, changes in the economy, new court mandates related to desegregation, various legislative initiatives such as school vouchers, and the press to privatize have created a web of conflicting demands and expectations for school principals. These changes have resulted in "a turning of the role of principal 90 degrees from everywhere" (Prestine, 1994, p. 150).

Contemporary models of school reform acknowledge the principal as the passport to school success. The modern principal is no longer the "principal" teacher, but rather the manager of an increasingly complex organization. Principals today are expected to create a team relationship among staff members, acquire and allocate resources, promote teacher development, improve students' performance on standardized tests, and build effective community linkages (Drake and Roe, 2002; Pierce, 2002).

Additionally, principals are supposed to interact with teachers, parents, community members, and students. Strong collaboration and instructional skills have replaced strong bureaucratic skills as important attributes of effective principals (Drake and Roe, 2002; Neufeld, 1997). In many respects, the demands on principals mirror those on teachers who are attempting to become facilitators of children's learning and are rethinking their notions of content, pedagogy, and assessment (Neufeld, 1997). Principals need continuous professional development opportunities to support their efforts toward school improvement and revitalize their commitment to creating and sustaining positive learning communities (Foster, Loving and Shumate, 2000; Evans and Mohr, 1999; Neufeld, 1997).

## MODELS OF PRINCIPAL PROFESSIONAL DEVELOPMENT/IN-SERVICE

Over the years, three different philosophical orientations have guided the education and professional development of school administrators: traditional/scientific management, craft, and reflective inquiry. The traditional model is characteristic of preparation programs at universities.

Principals select this model based on their desire to pursue additional coursework in an area of professional interest; to obtain an advanced degree; to renew or upgrade their administrative licensure; or a combination of these objectives (Daresh, 2002; Fenwick and Pierce, 2002).

## Traditional Model

The traditional model exposes the principal to the research base on management and the behavioral sciences. She or he learns the general principles of administrative behavior and rules that can be followed to ensure organizational effectiveness and efficiency. The participant is often the passive recipient of knowledge and the source of professional knowledge is research generated at universities. Learning activities are institutionally defined and generally not tailored to the specific learning needs of the principal or reflective of his specific school context.

In more recent years, many school districts, professional associations, and other education agencies have created in- service academies and workshops/seminars. These academies and workshop/seminar series often have course delivery systems similar to universities, and thus can be characterized as modern versions of the traditional model. Content is changed periodically, usually on the basis of needs assessments administered to potential academy participants. This approach is distinct from other in-service models because of its short-term duration and because it tends to deal with a narrow range of topics, or highly focused topics (Daresh, 2002). Unlike university-based programs, academies and seminars/workshops are more client-driven. Involvement in these types of learning activities normally comes from a principal's personal motivation and desire to learn and grow professionally, not from a need to meet certification or degree requirements (Daresh, 2002).

## Craft Model

In the craft model, the principal is trained by other experienced professionals. Here, the principal is the recipient of knowledge from seasoned administrators whom she or he shadows in internships and field experiences. The purpose of shadowing is for the principal-observer to see how another principal interacts with school personnel and the public, deals with problems, and responds to crises. The observer learns another

way of handling school concerns. In the craft approach, the source of professional knowledge is the practical wisdom of experienced practitioners and the context for learning is a real school setting (Daresh, 2002; Fenwick and Pierce, 2002).

Reflective Inquiry Approach

In the reflective inquiry approach to professional development, the principal is encouraged to generate knowledge through a process of systematic inquiry. The focus is to create principals who are able to make informed, reflective and self- critical judgments about their professional practice. Here, principals are active participants in their learning and the source of knowledge is in self-reflection and engagement. The goal is to encourage principals to reflect on their values and beliefs about their roles as school leaders, take risks and explore new skills and concepts, and apply their new knowledge and skills in real school contexts. Networking, mentoring, and reflective reading and writing are key components of this approach (Daresh, 2002; Fenwick and Pierce, 2002).

The use of networking for professional development of principals is based on the belief that collegial support is needed in order to be an effective school leader. Literature (Owens, 2000) on organizational effectiveness indicates that the presence of norms of mutual support and collegiality results in greater leadership longevity and productivity. Networking involves linking principals for the purpose of sharing concerns and effective practices on an ongoing basis. Networks tend to be informal arrangements that emerge when principals seek out colleagues who share similar concerns and potential solutions to problems. However, rather than being periodic social gatherings, true networking is regular engagement in activities that have been deliberately planned by the principals themselves, as a way to encourage collective movement toward enhanced professional performance (Daresh, 2002; Neufeld, 1997; Clift, 1992).

One of the most powerful approaches to professional development is mentoring. A mentor is a professional colleague and critical friend who helps the principal understand professional norms and job expectations, and provides helpful advice about professional challenges and career ascension. More than half of the nation's states require that all beginning

principals receive at least a year of mentor support when they assume their first administrative post (Daresh, 2002).

Reading and journaling are fundamental practices in the reflective inquiry approach to professional development. Principals read critical professional literature as well as other relevant writing (novels, plays, poetry). Reading selections grow out of the principal's mentoring and networking experiences and professional and personal interests. The assumption underlying this practice is that reading enlightens the principal about the human condition, leadership, and teaching and learning. In this approach, principals are also encouraged to engage in reflective writing via journaling. Here, journals are records of personal reflections about professional challenges, successes and failures, and "aha" moments. Principals can then share reflections from their journals and about their readings in order to obtain feedback from peers and mentors that will encourage further reflection and shape future action plans.

Professional development programs for principals typically reflect one of the three aforementioned philosophical orientations. In most cases they are an amalgam of all three approaches. One professional development model that reflects the best of each approach is the principals' center.

## PRINCIPAL CENTERS

Just like teachers, principals' professional development must be planned, long-term, embedded in their jobs, focused on student achievement, and supportive of reflective practice. It needs to include opportunities to work, discuss, and solve problems with colleagues (Drake and Roe, 2002). Principal centers were designed to provide practicing and aspiring principals the chance to meet in settings to explore and reflect on current school and leadership topics. Their programs are varied and meet the unique needs of principals through conferences, forums, study groups, workshops, seminars, institutes, and grants to pursue self-designed school based projects. Many of the centers are modeled after The Principals' Center at the Harvard Graduate School of Education, the first of its kind dedicated to the professional development of school leaders. Founded in 1981, the Center is the springhead for 150 principal centers existing today throughout the United States. Many of these centers are connected to the

International Network of Principals' Centers, where members are also linked with educators throughout the world.

## CONNECTING PRINCIPALS' PROFESSIONAL DEVELOPMENT TO THE EDUCATIONAL EQUITY AGENDA AND SCHOOL IMPROVEMENT

According to a policy brief issued by the National Institute on Educational Governance, "preparing current administrators for new modes of leadership will require changes in content and delivery of professional development" (U.S. Department of Education, 1999, p. 10). If the education charge of the new millennium is to deliver on the promise of a quality education for all children, then a different understanding should guide principals' preparation and professional development. In order to truly "leave no child behind" and reduce the racial achievement gap reform efforts should structure schooling as "an opportunity structure" and not as a sorting machine. Toward this end, embracing a social reconstructionist orientation toward principal preparation and professional development would encourage school leaders to create greater equality and social justice both in schools and the larger community (Fenwick and Pierce, 2002).

The goal of the social reconstructionist approach is for the participant to learn strategies for the eradication of structures of inequality such as racism, classism and sexism.

People of color and the poor are systematically undereducated in this country. Leadership can play a powerful role in getting the underserved educated. The new professional development model should center learning activities on a conscious equity agenda. According to Evans and Mohr (1999), "Reinforcing old patterns and hearing speakers who mouth familiar platitudes about the 'effective' principals . . . does not lead to substantive change" (p. 532). When the "real problems of real schools" is defined as improving educational outcomes for the lowest performing students, professional development for principals looks different. How different?

First, those who structure and facilitate professional development programs and opportunities should come from diverse backgrounds. Second, professional development programs should encourage principals

to gain at least a conversational level of fluency in the second or third most prominent language spoken by students in the school district in which the principal serves. Third, scholarship by Black, Asian, Hispanic/Latino and other typically marginalized scholars should be a prominent piece of professional development reading and reflection (Fenwick and Pierce, 2002). Fourth, principals should learn the knowledge base and technical skills from practitioners, policymakers and academics who have been successful in resolving educational equity concerns, advancing a social justice agenda, and improving outcomes for underserved children and their communities (Fenwick and Pierce, 2002).

Successful professional development takes time. Principals, just like their teachers, benefit from professional development that examines best practices, provides coaching support, encourages risk-taking designed to improve student learning, cultivates team relationships and provides quality time for reflection and renewal. In the end, principals and teachers should leave these experiences with a renewed sense of faith in the transformative power of schools in children's lives.

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# Indicators of Teacher Quality

The No Child Left Behind (NCLB) Act requires that states employ only "highly qualified" teachers by the end of the 2005-2006 school year, and, indeed, research has demonstrated teacher quality is the most important educational factor predicting student achievement (Ferguson, 1998; Hanushek, Kain, & Rivkin, 1999). Although studies have produced contradictory findings about which attributes of teachers are most likely to translate into effective classroom performance, some information on how specific teacher attributes correlate with teacher quality is available, and it can help guide administrators' hiring decisions. This digest briefly reviews this knowledge.

## TEACHER DEGREE LEVELS

The research on the value of a teacher's advanced degree is mixed: some studies show that while additional teacher education has a positive correlation with student achievement in some cases, others find that it negatively affects achievement (Greenwald, Hedges, & Laine, 1996; Hanushek, 1986). Goldhaber and Brewer (1997) found that a teacher's advanced degree is not generally associated with increased student learning from the eighth to the tenth grade, but having an advanced degree in math and science for math and science teachers appears to influence students' achievement. The same results were not found to be true for teachers of English or history.

Goldhaber and Brewer (1997) suggest that the findings of other studies about the impact on student achievement of teachers' advanced degrees are inconclusive because they considered only the level of the degree and not the subject of the degree, which may affect student achievement in different ways than the degree level. Nevertheless, results from all the studies seem to imply that there is not a positive correlation between teachers having advanced degrees in subjects other than those they teach and student achievement.

## TEACHER PREPARATION: PEDAGOGICAL VERSUS CONTENT KNOWLEDGE

Here, too, there is no strong consensus about the value of pedagogical preparation for teachers, the teaching of how to teach. In addition, because the quality and content of teacher training programs vary greatly, the impact is not always clear (Wilson, Floden, & Ferrini-Mundy, 2001). Some teacher education courses focus on content specific teaching methods (for certain school or student types), while others teach subject specific teaching methods. Few studies directly link how the type of education courses taken by teachers affects student achievement. Discussions about pedagogical preparation focus instead on secondary measures like the relationship between student achievement and teachers' scores on standardized tests measuring pedagogical knowledge, and the relationship between student achievement and teacher certification status, considered an indication that the teacher completed some kind of pedagogical training.

Because content knowledge is also not clearly defined or measurable in all content areas, studies often rely on an individual's undergraduate coursework as proxies for content preparation. Coursework, however, varies across institutions as does an individual's mastery of content. Whereas Goldhaber and Brewer (1997) found that students who had teachers with subject-related advanced degrees in math and science performed better than students of teachers without subject training, Monk and King-Rice (1994) found that even in subjects where subject-specific training may make a difference (e.g., math), its impact depends on the context of the classes taught: the number of college math courses taken by teachers had an impact on high school students' math achievement, but additional teacher coursework beyond that only mattered if the teacher was teaching an advanced course.

Given that additional studies had similar findings, it can be concluded that teachers with advanced degrees in specific subjects can have an impact on student learning in those subjects in certain settings. There is too little research available to conclude whether non-subject-specific degrees are correlated with student outcomes.

## TEACHER LICENSURE

Traditionally, state teacher licensure has helped ensure at least a minimal standard of teaching competence. Licensing typically requires that prospective teachers complete a standard set of college level courses in

pedagogy or in the subject they wish to teach, and that they pass one or more standardized tests. Because of a tighter teacher labor market, many states now permit schools to employ non-traditionally-licensed teachers. Some believe that such teachers are not prepared to teach, while others feel that alternative licensing may attract better candidates to teaching.

A recent study (Goldhaber & Brewer, 2000) comparing achievement levels of high school students taught by teachers with different types of licensure found that students taught by fully-licensed teachers tended to have higher levels of performance in math and science on average. When measuring achievement growth, though, there were few differences in achievement between students with teachers who held standard state certification and those with emergency certification in subjects. Their findings illustrate the importance of measuring student achievement gains instead of levels.

A review of about 150 studies on teacher certification by the Abell Foundation (Walsh, 2001) concluded that they did not show that certified teachers are more effective than uncertified teachers, touching off a heated debate about both the Foundation's findings and the quality of the studies reviewed (see, for example, the rejoinder by Darling-Hammond, 2001). Additional studies have also found that students of alternatively certified teachers do at least as well as students whose teachers are fully state-certified (e.g., Miller, McKenna, & McKenna, 1996), while others found that that fully licensed teachers are more effective (e.g., Hawk, Coble, & Swanson, 1985).

Thus, we believe that there is not a strong enough research base from which to draw definitive conclusions about the value of state regulation of the teacher labor market.

## TEACHER YEARS OF EXPERIENCE

There is a wide range of findings on the relationship between years of teaching experience and student outcomes. Hanushek (1986) found that fewer than half of the 109 previous studies on the estimated effects of teacher experience showed that experience had any statistically significant effect on student achievement; of those, 33 studies found that additional years of experience had a significant positive effect, but seven found that more experience actually had a negative impact on student

achievement. Other studies show a stronger positive relationship between teacher experience and student outcomes in some, but not all, cases they reviewed (e.g., Greenwald et al., 1996). Murnane (1995) suggests that the typical teaching learning curve peaks in a teacher's first few years (estimated at year two for reading and year three for math).

It is also plausible that a positive finding on experience actually results from the tendency of more senior teachers to select higher-level classes with higher achieving students (Hanushek, 1986). Thus we might reasonably infer that the magnitude of the experience effect, should it exist, is not terribly large.

## TEACHERS' ACADEMIC PROFICIENCY

Researchers have also considered the relationship between student outcomes and teachers' general academic proficiency. Measures such as performance on tests of verbal ability, teacher licensure, or college entrance exams, and the selectivity of the undergraduate institutions attended by teachers, are used as reflections of intelligence and motivation. The research predicting student achievement that includes measures of teacher academic proficiency is not plentiful, but it consistently shows a positive relationship between the two (e.g., Strauss & Vogt, 2001). However, the studies were all conducted at the school or school district level, as opposed to teacher or student level, casting some doubt on them. Measurement issues and issues of causality leave unanswered the question of whether higher-scoring teachers lead to higher-scoring students or whether affluent districts, which tend to have higher achieving students, hire teachers with higher scores.

A few studies conducted at the individual student level found that teachers who attended more selective undergraduate colleges are more effective (Ehrenberg & Brewer, 1994; Summers & Wolfe, 1975). Greenwald et al. (1996) found a total of only nine studies that analyzed the effects of teacher academic proficiency on student achievement, but positive relationships between teachers' academic proficiency and student achievement were found in the overwhelming majority of them. Thus, taken as a whole, the above literature suggests that measures of teacher academic proficiency represent one of the best predictors of teacher quality.

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## Good or Bad, What Teachers Expect from Students They Generally Get!

Most teachers know a little bit about the Pygmalion effect, or the idea that one's expectations about a person can eventually lead that person to behave and achieve in ways that confirm those expectations (Brehm & Kassin, 1996). Everyone who has seen George Bernard Shaw's play PYGMALION or viewed the movie MY FAIR LADY remembers Eliza Doolittle's remarkable transformation, due to Professor Higgins' beliefs (i.e., expectations of her). Although first widely presented to educators in Rosenthal and Jacobson's PYGMALION IN THE CLASSROOM (1968), few educators understand exactly how to use the Pygmalion effect or self-fulfilling prophecy (SFP) as a purposeful pedagogical tool to convey positive expectations and, maybe even more importantly, to avoid conveying negative expectations.

How many of you think that you are reasonably good judges of character? With years of teaching experience under your belt, are you more often than not able to size up students correctly? Occasionally you are wrong, but most often you are correct. Right? Many teachers believe that they can judge ahead of time, sometimes by just a glance the first day of school, how certain students are likely, over time, to achieve and behave. Try the following exercise (Tauber, 1997). Pretend that you are not reading an article designed to make you more sensitive to the power of teacher expectations. Jot down the first descriptive thoughts that come to your mind when you think about the following kinds of people. Be honest. No one but you will see what you write.

Generally, what descriptors might you use to characterize:

1. a teenager from a family that has strong and vocal Democratic (or Republican) Party ties;
2. a significantly overweight teenage girl;
3. a primary school student from an affluent family who is an only child;
4. a middle school student whose two older siblings you had in class several years ago--each of whom was often a troublemaker;
5. an Asian boy who is the son of a respected university math professor;
6. a teenage boy who is thin, almost frail, and very uncoordinated for his age.

### FIRST IMPRESSIONS ARE LASTING IMPRESSIONS

In spite of your best efforts to resist predictions regarding these students and their academic and/or behavioral future, did you catch yourself forming expectations--even fleetingly? If your answer is "yes," then the self-fulfilling prophecy probably is set in motion.

The basis of the SFP is that once a student has been pegged ahead of time as, say, a "troublemaker," "nonscholar," or "likely to be self-centered," the chances are increased that our treatment of this student will, in effect, help our negative prophecies or expectations come true. Here the SFP would work to the detriment of the student. On the other hand, we could peg a student as "cooperative," "a scholar," or "likely to be a self-starter," thus increasing the chances that our treatment of him or her will convey these expectations and, in turn, contribute to the student living up to our original positive prophecy. In this case, the SFP would work to the student's benefit. Teachers, more often than not, get from students what they expect from them!

As a case in point, if you were a teacher and you had a student perform significantly better on a test than you would have predicted, would you look first at alternative reasons why this happened before admitting that you may have misjudged the child's capabilities? Would you be tempted to rescore the student's exam, believing that you must have made an error? Would you try to recall who was sitting next to this student when the test was administered and then check his or her exam for any all-too-obvious similarities in answers--i.e., the student in question must have cheated?

If, as Wagar claims, "The ultimate function of a prophecy is not to tell the future, but to make it" (1963, p. 66), then each time teachers size up or size down a student they are, in effect, influencing this student's future behavior and achievement. This is an awesome burden for educators to carry. The burden can be lessened if educators better understand the SFP and then remain diligent in trying to control it.

## HISTORY AND MECHANISMS OF THE SELF-FULFILLING PROPHECY

The term "self-fulfilling prophecy" was first coined by sociologist Robert K. Merton (1948). As part of his explanation of the SFP, Merton drew upon the theorem: "If men define situations as real, they are real in their consequences" (Thomas, 1928, p. 257).

The following five-step model explains how the SFP works:

1. The teacher forms expectations.

2. Based upon these expectations, the teacher acts in a differential manner.
3. The teacher's treatment tells each student (loud and clear) what behavior and what achievement the teacher expects.
4. If this treatment is consistent, it will tend to shape the student's behavior and achievement.
5. With time, the student's behavior and achievement will conform more and more closely to that expected of him or her.

Because steps 3 through 5 are a repetition of steps 1 and 2, only the first two steps will be elaborated.

## TEACHERS FORM EXPECTATIONS

Teachers form expectations--often during the very first day of school. If first impressions are lasting impressions, then some students are at a definite advantage, while still others are at a definite disadvantage. What characteristics influence expectations? SFP research (Good, 1987) shows that teachers form expectations of and assign labels to people based upon such characteristics as body build, gender, race, ethnicity, given name and/or surname, attractiveness, dialect, and socioeconomic level, among others. Once we label a person, it affects how we act and react toward that person. "With labels, we don't have to get to know the person. We can just assume what the person is like" (Oakes, 1996, p. 11). For instance, research (Brylinsky & Moore, 1994; Collins & Plahn, 1988) is clear that when it comes to a person's body build, mesomorphs, those with square, rugged shoulders, small buttocks, and muscular bodies are "better" than both ectomorphs, those with thin, frail-looking bodies, and endomorphs, those with chubby, stout, bodies with a central concentration of mass. Among other expectations, mesomorphs are predicted to be better fathers, more likely to assume leadership positions, be more competent doctors, and most likely to put the needs of others before their own.

With respect to attractiveness, the adage "beauty is good" prevails whether in storybooks or in real life. All things being equal, beautiful people are expected to be better employees--most likely to be hired, given a higher salary, and to advance more rapidly than their ugly-duckling counterparts. Beautiful people are perceived (expected) to make better parents, be better public servants, and be more deserving of having benefits bestowed upon them. The overall pattern of ascribing positive

attributes to attractive people, including students, is the norm (Kenealy, Frude, & Shaw, 1988).
Finally, one's given name, often the first thing that we know about someone, can trigger expectations. Johnny Cash, in his song, A BOY NAMED SUE, knew the power of expectations, and research confirms it. Certain social handicaps are thrust upon the child who carries a socially undesirable name. In the United States, primarily white, middle-class females continue to teach diverse student bodies that less and less resemble the teachers themselves--i.e., in color, race, ethnicity. When minority students, who by far possess the more unusual names (at least in the eyes of teachers), come to class, teachers cannot help but be influenced.
The self-fulfilling prophecy works two ways. Not only do teachers form expectations of students, but students form expectations of teachers--using the same characteristics described above (Hunsberger & Cavanagh, 1988).

## TEACHERS ACT ON EXPECTATIONS

Different expectations usually lead to different treatments. How does one person convey his or her expectations to another person? Rosenthal's Four-Factor theory, described in the often-recommended training video, PRODUCTIVITY AND THE SELF-FULFILLING PROPHECY: THE PYGMALION EFFECT (CRM Films, 1987), identifies climate, feedback, input, and output as the factors teachers use to convey expectations.
CLIMATE: the socioemotional mood or spirit created by the person holding the expectation, often communicated nonverbally (e.g., smiling and nodding more often, providing greater eye contact, leaning closer to the student).
FEEDBACK: providing both affective information (e.g., more praise and less criticism of high-expectation students) and cognitive information (e.g., more detailed, as well as higher quality feedback as to the correctness of higher-expectation students' responses).
INPUT: teachers tend to teach more to students of whom they expect more.
OUTPUT: teachers encourage greater responsiveness from those students of whom they expect more through their verbal and nonverbal behaviors (i.e., providing students with greater opportunities to seek clarification).
These four factors, each critical to conveying a teacher's expectations, can better be controlled only if teachers are more aware that the factors are

operating in the first place. Even if a teacher does not truly feel that a particular student is capable of greater achievement or significantly improved behavior, that teacher can at least ACT as if he or she holds such heightened positive expectations. Who knows, the teacher very well may be convincing to the student and, later, to himself or herself.

## CONCLUSION

Longitudinal studies support the SFP hypothesis that teacher expectations can predict changes in student achievement and behavior beyond effects accounted for by previous achievement and motivation (Jussim & Eccles, 1992). Teachers who effectively use the self-fulfilling prophecy can, and should, help students become their own Pygmalions.

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# Transformative Learning in Adulthood

A defining condition of being human is that we have to understand the meaning of our experience. For some, any uncritically assimilated explanation by an authority figure will suffice. But in contemporary societies we must learn to make our own interpretations rather than act on the purposes, beliefs, judgments, and feelings of others. Facilitating such understandings is the cardinal goal of adult education. Transformative learning develops autonomous thinking (Mezirow 1997, p. 5).
Since first introduced by Jack Mezirow in 1978, the concept of transformative learning has been a topic of research and theory building in the field of adult education (Taylor 1998). Although Mezirow is considered to be the major developer of transformative learning theory, other perspectives about transformative learning--influenced by the work of Robert Boyd--are emerging. Following a discussion of transformative learning as conceptualized by Mezirow, this Digest describes research and theory building by Robert Boyd and its influence on current perspectives of transformative learning. Some suggestions for fostering transformative learning conclude the Digest.

## MEZIROW AND TRANSFORMATIVE LEARNING

The theory of transformative learning that has been developed by Mezirow during the past 2 decades has evolved "into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton 1994, p. 22). Centrality of experience, critical reflection, and rational discourse are three common themes in Mezirow's theory (Taylor 1998), which is based on psychoanalytic theory (Boyd and Myers 1988) and critical social theory (Scott 1997).
For learners to change their "meaning schemes (specific beliefs, attitudes, and emotional reactions)," they must engage in critical reflection on their experiences, which in turn leads to a perspective transformation (Mezirow 1991, p. 167). "Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and, finally, making choices or otherwise acting upon these new understandings" (ibid.).

Perspective transformation explains how the meaning structures that adults have acquired over a lifetime become transformed. These meaning structures are frames of reference that are based on the totality of individuals' cultural and contextual experiences and that influence how they behave and interpret events (Taylor 1998). An individual's meaning structure will influence how she chooses to vote or how she reacts to women who suffer physical abuse, for example.

The meaning schemes that make up meaning structures may change as an individual adds to or integrates ideas within an existing scheme and, in fact, this transformation of meaning schemes occurs routinely through learning. Perspective transformation leading to transformative learning, however, occurs much less frequently. Mezirow believes that it usually results from a "disorienting dilemma," which is triggered by a life crisis or major life transition, although it may also result from an accumulation of transformations in meaning schemes over a period of time (Mezirow 1995, p. 50).

Meaning schemes are based upon experiences that can be deconstructed and acted upon in a rational way (Taylor 1998). Mezirow (1995) suggests this happens through a series of phases that begin with the disorienting dilemma. Other phases include self-examination, critical assessment of assumptions, recognition that others have shared similar transformations, exploration of new roles or actions, development of a plan for action, acquisition of knowledge and skills for implementing the plan, tryout of the plan, development of competence and self-confidence in new roles, and reintegration into life on the basis of new perspectives (ibid., adapted from p. 50).

As described by Mezirow (1997), transformative learning occurs when individuals change their frames of reference by critically reflecting on their assumptions and beliefs and consciously making and implementing plans that bring about new ways of defining their worlds. His theory describes a learning process that is primarily "rational, analytical, and cognitive" with an "inherent logic" (Grabov 1997, pp. 90-91).

## ANOTHER PERSPECTIVE

A number of critical responses to Mezirow's theory of transformative learning have emerged over the years. (See Cranton [1994] and Taylor [1998] for a full discussion of these critiques.) One major area of contention surrounding Mezirow's theory is its emphasis upon rationality (ibid.). Although many empirical studies support Mezirow's contention

that critical reflection is central to transformative learning, others have "concluded that critical reflection is granted too much importance in a perspective transformation, a process too rationally driven" (Taylor 1998, pp. 33-34). A view of transformative learning as an "intuitive, creative, emotional process" is beginning to emerge in the literature (Grabov 1997, p. 90). This view of transformative learning is based primarily on the work of Robert Boyd (Boyd and Myers 1988), who has developed a theory of transformative education based on analytical (or depth) psychology.

For Boyd, transformation is a "fundamental change in one's personality involving [together] the resolution of a personal dilemma and the expansion of consciousness resulting in greater personality integration" (Boyd 1989, p. 459, cited in Taylor 1998, p. 13). The process of discernment is central to transformative education (Boyd and Myers 1988). Discernment calls upon such extrarational sources as symbols, images, and archetypes to assist in creating a personal vision or meaning of what it means to be human (ibid.; Cranton 1994).

The process of discernment is composed of the three activities of receptivity, recognition, and grieving. First, an individual must be receptive or open to receiving "alternative expressions of meaning," and then recognize that the message is authentic (Boyd and Myers 1988, p. 277). Grieving, considered by Boyd (ibid.) to be the most critical phase of the discernment process, takes place when an individual realizes that old patterns or ways of perceiving are no longer relevant, moves to adopt or establish new ways, and finally, integrates old and new patterns.

Transformative education draws on the "realm of interior experience, one constituent being the rational expressed through insights, judgments, and decision; the other being the extrarational expressed through symbols, images, and feelings" (ibid., p. 275). The process of discernment allows the exploration of both, moving back and forth between the rational and the extrarational. Unlike Mezirow, who sees the ego as playing a central role in the process of perspective transformation, Boyd and Myers use a framework that moves beyond the ego and the emphasis on reason and logic to a definition of transformative learning that is more psychosocial in nature (Taylor 1998).

## TRANSFORMATIVE LEARNING IN PRACTICE

On the surface, the two views of transformative learning presented here are contradictory. One advocates a rational approach that depends

primarily on critical reflection whereas the other relies more on intuition and emotion. The differences in the two views, however, may best be seen as a matter of emphasis. Both use rational processes and incorporate imagination as a part of a creative process. Mezirow's view emphasizes the rational whereas Boyd and Myers' relies most heavily on imagination or the extrarational. Grabov (1997) suggests that the two views share a number of commonalities including "humanism, emancipation, autonomy, critical reflection, equity, self-knowledge, participation, communication and discourse" (p. 90).

The two different views of transformative learning described here as well as examples of how it occurs in practice (see, for example, Cranton 1997 and Taylor 1998) suggest that no single mode of transformative learning exists. Differences in learning contexts, learners, and teachers all affect the experiences of transformative learning. Because people learn in different but interwoven ways, educators should not see transformative learning as the only goal of education (Cranton 1994). Based on findings from empirical studies, Taylor (1998) suggests that not all learners are predisposed to engage in transformative learning. The same can be said for teachers. Not all teachers of adults may feel comfortable with a goal of transformative learning. In addition, many adult learning situations do not necessarily lend themselves to transformative learning.

When transformative learning is the goal of adult education, however, how can it best be fostered given the variables of learning contexts, learners, and teachers? Whether transformative learning is approached as a consciously rational process or through a more intuitive, imaginative process, fostering a learning environment in which it can occur should consider the following:

-- The role of the teacher. The teacher's role in establishing an environment that builds trust and care and facilitates the development of sensitive relationships among learners is a fundamental principle of fostering transformative learning (Taylor 1998). Loughlin (1993) talks about the responsibility of the teacher to create a "community of knowers," individuals who are "united in a shared experience of trying to make meaning of their life experience" (pp. 320-321). As a member of that community, the teacher also sets the stage for transformative learning by serving as a role model and demonstrating a willingness to learn and change by expanding and deepening understanding of and perspectives about both subject matter and teaching (Cranton 1994).

-- The role of the learner. Taylor (1998) believes that too much emphasis has been placed on the role of the teacher at the expense of the role of the

participant. Although it is difficult for transformative learning to occur without the teacher playing a key role, participants also have a responsibility for creating the learning environment. As a part of a community of knowers, learners share the responsibility for constructing and creating the conditions under which transformative learning can occur.

-- The role of the rational and the affective. Transformative learning has two layers that at times seem to be in conflict: the cognitive, rational, and objective and the intuitive, imaginative, and subjective (Grabov 1997). Both the rational and the affective play a role in transformative learning. Although the emphasis has been on transformative learning as a rational process, teachers need to consider how they can help students connect the rational and the affective by using feelings and emotions both in critical reflection and as a means of reflection (Taylor 1998).

Transformative learning may not always be a goal of adult education, but its importance should not be overlooked and all adult educators should strive to understand it, even if they do not choose to foster it.

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# Volunteering and Adult Learning

"The history of adult education has been a history of voluntary activity and voluntary association" (Ilsley 1989, p. 100).

Today, volunteerism, and the growing field of volunteer management, continue to reflect close associations with adult education. Research and practice in adult education can inform the development of learning opportunities for volunteers. With this in mind, this Digest describes some of the similarities between the fields of volunteer management and adult education and examines some of the types and methods of learning that occur in the context of volunteering.

## VOLUNTEER MANAGEMENT AND ADULT EDUCATION

Like adult education, the field of volunteer management shows increasing movement toward professionalization, as practitioners attempt to define a knowledge base, establish philosophical and ethical foundations and standards for entry and practice, form a distinctive subculture, and achieve recognition (Fisher and Cole 1993). The demographic profile of both adult learners and the volunteer pool is changing. No longer do full-time homemakers constitute the majority of volunteers; opportunities for service draw senior citizens, students in service learning projects, full-time professionals, and people with disabilities (Geber 1991). These changing demographics propel changes in the practice of both fields. Volunteer managers are changing the type of tasks assigned to volunteers, the hours and places in which tasks are done (including offsite and online), and the kinds of training and recognition they offer to accommodate the needs of the new breed of volunteers (ibid.). Both fields are concerned with issues of recruitment and participation. People with more education are more likely to participate in adult education as well as in volunteer service (Morris and Caro 1995; Rumsey 1996).

The establishment of standards--both for the profession of volunteer management and for volunteer service itself--is generating debates similar to those among adult educators over purposes and objectives. Ilsley (1989) suggests that professionalization is making the volunteer field more technical and market oriented, similar to the way business language and methods are being borrowed in adult education. The agenda of

volunteer organizations, especially those focused on social change, is in danger of being coopted as government and corporations formalize what may have been more grassroots, nonformal efforts (ibid.). Elsey (1993) identifies a similar debate in both the volunteer field and adult education over focus on individuals or society. He envisions the two fields forming a "third way" between government and the free market in the formation of civil society. For Elsdon (1995), voluntary activity is about both individuation and good citizenship, for it is through individual empowerment, achieved by participating and learning from that experience, that service is rendered.

## LEARNING THROUGH VOLUNTEERING

"Learning is part of the contract between the organization and the volunteer" (McCabe 1997, p. 18). "Volunteering is a powerful source of learning" (Ross-Gordon and Dowling 1995, p. 307). Altruism may be the most obvious reason behind volunteering, but there are many other motivational factors that have an explicit or implicit link to learning. For some, learning new skills for career advancement or exploring job options is an important motivator (Geber 1991; Rumsey 1996). For others, skills and experiences gained through volunteer service fulfill a need for relationships, personal growth and development, achievement, or affiliation. Acquiring a sense of purpose and making meaning of experience is a goal of other volunteers (Freedman 1994). Comprehensive orientation and volunteer training programs show that the "organization values them enough to make an investment in them" ("Seven Steps" 1997). Learning motivations vary by age. Rumsey (1996) found that younger volunteers especially valued the knowledge and career-related experience they acquired. Freedman (1994) discovered that older volunteers were less motivated by altruism than desire for purpose, affiliation, growth, and meaning.

The types of learning that occur in volunteer settings cross the spectrum of adult learning. Different contexts result in different types of learning, depending on the objectives of the organization and volunteer and the content and methods involved (Ilsley 1989). For example, institutions such as Literacy Volunteers of America may focus on instrumental learning to meet organizational goals, providing training in skills needed for specific tasks such as literacy tutoring. In ad hoc groups such as hospital guilds, social-expressive learning fulfills volunteers' social needs

and imparts organizational values through group socialization and collaborative activities. Problem-focused organizations such as a volunteer fire department might emphasize problem solving, experiential learning, teamwork, and group process to accomplish their mission. In organizations dedicated to social causes, such as environmental groups, critical/reflective learning might focus on political processes and empowerment to achieve desired social change (ibid.).

Formal education and training are essential, because volunteers need initial and ongoing orientation to learn about the organization and training to perform particular tasks or assume additional responsibilities. Workshops, seminars, mentorship, apprenticeship, training manuals, and other methods familiar to the education enterprise are integral to the mission of volunteer agencies. However, research shows that formal education is not "the primary source of the most significant learning" (Ross-Gordon and Dowling 1995, p. 313). Learning is a crucial factor in volunteers' satisfaction with their experience, and satisfied participants are more likely to remain committed to the organization. However, "much of that learning is beyond managerial control" (Fiset et al. 198, p. 75). Volunteers frequently report learning by experience, interaction, or observation (ibid.). Informal and incidental learning that occurs in the process of activity is a significant part of the volunteer experience.

Self-directed learning (SDL) projects can involve both formal and informal methods. However, although a majority of volunteers Portelli (1997) surveyed had conducted SDL projects, they did not consider their volunteer experiences to be SDL, perhaps because such projects were largely unplanned and learning needs were not explicitly expressed. Similarly, Elsdon (1995) found that many volunteer activities have no ostensible learning objectives but do result in such outcomes as personal growth, confidence, and interpersonal skills. Although many instances of deliberate learning and change among volunteers were evident, the "single most important finding from our work is that this unpremeditated group of changes--confidence, empowerment, making constructive relationships, organizational learning, ability and willingness to shoulder responsibility--is mentioned as the first and most important one by an overwhelming majority" (ibid., p. 79).

## VOLUNTEER ORGANIZATIONS AS LEARNING ORGANIZATIONS

These findings suggest that "an organizational climate that recognizes the motivation of volunteers both to serve and to learn" (Fisher and Cole 1993, p. 118) is an essential element in the success of a volunteer enterprise. If, as Fiset et al. (1987) assert, much of the learning that will occur is beyond managerial control, volunteer managers may need to focus on how their organizational culture supports learning.

Elderhostel is an example of an organization that explicitly links learning and volunteering. A basic assumption of its Service Program is that informal learning will occur as participants acquire new skills, work in teams, and solve problems. This experiential learning is augmented by some formal education. Beyond formal and informal learning, "participants are given structured time for integrating what they have learned," which "helps them to incorporate the service experience into their broader life experience in a more meaningful way" (Lamdin and Fugate 1997, p. 106). Norsman (1997) also found that a climate in which participants can reflect, think critically, and act on behalf of their organization resulted in transformative learning.

Elsey (1993) confirms the need for reshaping the climate and culture of volunteer organizations. Although volunteers in his study valued training opportunities and learning, there was some opinion that resources should not be spent "indulging" in training rather than service, "a reflection of old culture" (p. 6). However, others recognized the importance of personal empowerment through learning as a motivation for volunteering and acknowledged the value it added to organizational effectiveness.

## CONCLUSION

The value of learning through volunteer service is now being emphasized in the involvement of elementary-secondary and college students in service learning projects. Volunteering also holds great potential for adult learning, even if the connections are not always explicit. Adult educators can help improve the quality of learning through the volunteer experience in a number of ways:

-- Advocating a broader view of learning that goes beyond courses and workshops to include mentoring, peer support, and information needs (McCabe 1997).

-- Sharing with volunteer managers current knowledge about self-directed learning, program development, and assessment of adult learners (Ross-Gordon and Dowling 1995).

-- Providing greater recognition and support for informal learning by increasing individuals capacity for critical reflection, enabling them to recognize and document their volunteer activities as learning experiences.

Elsdon (1995) believes that "voluntary organizations are about individual learning and change, about empowerment to fulfill one's potential, and about mutual caring" (p. 80). Volunteer service is an important site of lifelong learning opportunities that benefit both individuals and society.

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## From Theory to Practice: Classroom Application of Outcome-Based Education.

This digest will focus on Outcome-Based Education in the language arts classroom. Though Outcome-Based Education must involve administrators, educators, parents and students, ultimately it is the classroom teacher who is the key to the success of the program. The most basic premise of Outcome-Based Education (OBE) states that all students are capable of learning and can achieve high levels of competency when teachers delineate their expectations. When this is done, students feel they are participants in classroom decisions and tend to be more supportive of all aspects of the class. Thus, one of the main objectives of OBE is met as students and staff both take responsibility for successful learning outcomes.

Any teacher involved with OBE must be able to evaluate the effectiveness of his/her classroom experience implementing OBE. The following list delineates some of the tenets of OBE, and this digest will demonstrate how some of these tenets are utilized in the language arts/reading classroom:

- *Both staff and students take responsibility for successful learning.
- *Objectives are clearly defined.
- *Students have choices and options, thus they usually perform at higher levels of competency.
- *Instructional levels are determined after complete assessment of student mastery.
- *Students are given the opportunity to gain from others and to build a hierarchy of learning skills.
- *Evaluation by both peers and instructors is ongoing.
- *Time is varied for learning according to the needs of each student and the complexity of the task.

- *Students are given the opportunity to work with core and alternative curriculum.

- *All students are ensured the opportunity for personal success.

## CREATING A COMMUNITY OF READERS AND WRITERS

Throughout the course the instructor must make a sincere attempt to meet each student at his/her level of competency and build upon the "strengths already there." The first week a profile of reading/writing strengths of each student is created. This is done in a nonthreatening manner and is personalized as much as possible. Students are tested with the revised Gates-MacGinite Reading Tests---Vocabulary and Comprehension. In addition, students produce a writing sample in the classroom while listening to classical music.

As part of the profile, students complete two different interest inventories. Students also write a brief biography at this time and share these with a small group. By the end of the first several days of the course, students have clear objectives of the program, a classroom climate of mutual respect has been built, and the teacher has a great deal of information about each student. At this juncture there is a completed assessment of student mastery in varied areas, and one can determine where instructional levels will begin.

## ONGOING ASSESSMENT BY STUDENTS AND INSTRUCTORS

An area in the language arts/reading programs where ongoing assessment is of great value is in peer editing and teacher conferences. To teach reading and writing in a comprehensive manner, the teacher must realize that not all students will be working on the same activity during the same time. Varying the time for learning according to the needs of each student and the complexity of the task are especially apparent in the writing process. Student intervention with a specific writing partner or small group will give the necessary feedback.

While peer editing is essential, teacher conferences are a significant feature of the writing process. Students feel very special as the instructor focuses all his/her attention on the student and the writing. When conferencing with students it is important to distinguish at least two areas

of expertise and two areas for improvement on a given assignment. The instructor should keep written notes on the writing details, and the student needs to keep written verification of these notes. Thus both teacher and student know where the student needs instruction, and the teacher can easily and accurately check for mastery of this objective in the next writing piece. Students keep their writing in a portfolio and often select representative work for the portfolio with the input of the instructor as well as that of other students.

## THE WORLD IS A TEXTBOOK

It is significant to note that a textbook is not used for these classes. A regular textbook would bring a sense of confinement, and it is preferable to use trade books and authentic materials from the world around the students. Each year units of study that meet the changing needs of the student population are developed and integrated into the curricula. Past units have included socioeconomic issues, ecology, and music and its role in the life of teenagers. In this manner one can build upon the interests of the students and individualize their classroom experience.

Integral to this program is the completion of projects, reports, and group activities rather than a myriad of summative tests. These evaluations are usually a better assessment of a student's thoughts. The projects are often open-ended, giving the students freedom to explore whatever their interests and abilities lead them to.

SECRETS OF SUCCESS OF AN OUTCOME-BASED EDUCATION PROGRAM

- *Attempt to have your total staff in concert with the tenets of your program. Teachers need updated education and are usually open to new ideas and will implement them if they feel significant support from administration and other staff members. Plan a day-long program at the outset for introducing and educating the staff with the objectives of your resolve. Speakers for our staff development programs have included both outside presenters and our own personnel. Sometimes outside presenters have a wide appeal and bring a fresh approach to a given subject. Our program has been effective for many reasons, but one is the direct input of the staff in deciding what they want in terms of staff development.

- *Continue to conference with content area teachers. Because language arts is the basis for all other disciplines, continue to make yourself available to other staff members for support and assistance with specific areas of Outcome-Based Education. Some staff members will need more direction as new concepts are introduced and implemented. Become familiar with the texts used by other departments, and you will be able to offer assistance as new ideas are implemented.

- *Success is contagious, and others will see the benefits of the program and be more eager to share their concerns and ideas with you. Sometimes it is beneficial to begin with just a few new ideas, and then as a comfort zone is established, the more dramatic steps can be taken.

Not every time a class meets will it incorporate all aspects of OBE. However, by focusing on the growth and progress of the individual student, one usually sees a pattern of success. Mutual trust is built from the first day of the course and carries through to every aspect of the classroom experience. Every class has a personality of its own, and the unique chemistry of students and instructors learning and teaching with common goals is a form of achievement that cannot easily be measured. The long-term effects of competent teachers interacting with motivated students is never really known. However, one can identify when short-term goals have been met. Such successes of student-teacher cooperation and achievement have greatly enhanced the effectiveness of many using these objectives.

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This publication was prepared with partial funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract no. RR93002011. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions, however, do not necessarily represent the official view of the Office of Educational Research and Improvement.

# Multiple Intelligences: Theory and Practice in Adult ESL

The theory of multiple intelligences (MI) broadens the traditional view of intelligence as solely composed of verbal/linguistic and logical/mathematical abilities. MI theory maintains that all humans possess at least eight different intelligences that represent a variety of ways to learn and demonstrate understanding. This digest outlines the basic tenets of MI theory and describes how it has been applied in teaching English as a second language (ESL) to adults.

## THE THEORY OF MULTIPLE INTELLIGENCES

Intelligence has traditionally been defined in terms of intelligence quotient (IQ), which measures a narrow range of verbal/linguistic and logical/mathematical abilities. Howard Gardner (1993) argues that humans possess a number of distinct intelligences that manifest themselves in different skills and abilities. All human beings apply these intelligences to solve problems, invent processes, and create things. Intelligence, according to MI theory, is being able to apply one or more of the intelligences in ways that are valued by a community or culture. The current MI model outlines eight intelligences, although Gardner (1999) continues to explore additional possibilities.

* Linguistic Intelligence: The ability to use language effectively both orally and in writing.

* Logical/Mathematical Intelligence: The ability to use numbers effectively and reason well.

* Visual/Spatial Intelligence: The ability to recognize form, space, color, line, and shape and to graphically represent visual and spatial ideas.

* Bodily/Kinesthetic Intelligence: The ability to use the body to express ideas and feelings and to solve problems.

* Musical Intelligence: The ability to recognize rhythm, pitch, and melody.

* Naturalist Intelligence: The ability to recognize and classify plants, minerals, and animals.

* Interpersonal Intelligence: The ability to understand another person's feelings, motivations, and intentions and to respond effectively.

* Intrapersonal Intelligence: The ability to know about and understand oneself and recognize one's similarities to and differences from others.

## APPLICATION OF MI THEORY WITH ADULT ESL LEARNERS

Rather than functioning as a prescribed teaching method, curriculum, or technique, MI theory provides a way of understanding intelligence, which teachers can use as a guide for developing classroom activities that address multiple ways of learning and knowing (Christison, 1999b). Teaching strategies informed by MI theory can transfer some control from teacher to learners by giving students choices in the ways they will learn and demonstrate their learning. By focusing on problem-solving activities that draw on multiple intelligences, these teaching strategies encourage learners to build on existing strengths and knowledge to learn new content and skills (Kallenbach, 1999). It may also mean the adult learners who have had little success in traditional classrooms where only linguistic and mathematics skills are valued may experience more success when other intelligences are tapped. Likewise, adult ESL learners from cultures where other intelligences-such as interpersonal or musical-are highly valued may find the MI classroom a productive learning environment.

Broadly speaking, teachers have developed four ways of using MI theory in the classroom.

1. As a tool to help students develop a better understanding and appreciation of their own strengths and learning preferences. Christison (1999a) has developed an inventory to identify the preferred intelligences of adult English language learners. Learners are asked to respond to six statements about each of eight intelligences. An excerpt follows.

## MULTIPLE INTELLIGENCES INVENTORY FOR ESL/EFL ADULTS

Directions: Rate each statement 2, 1, or 0. 2 means you strongly agree. 1 means you are in the middle. 0 means you disagree. Total the points for each intelligence. Compare your scores on the different intelligences.

- Verbal/Linguistic Intelligence
- --- 1. I like to read books, magazines, or newspapers.
- --- 2. I often write notes and letters to my friends and family.
- --- 3. I like to talk to people at parties.
- --- 4. I like to tell jokes.
- --- 5. I like to talk to my friends on the phone.
- --- 6. I like to talk about things I read.
- Logical/Mathematical Intelligence
- --- 1. I can do arithmetic easily in my head.
- --- 2. I am good at doing a budget.
- --- 3. I am good at chess, checkers, or number games.
- --- 4. I am good at solving problems.
- --- 5. I like to analyze things.
- --- 6. I like to organize things.
- --- 7. I like crossword puzzles.
- Naturalist Intelligence
- --- 1. I like houseplants.
- --- 2. I have or would like to have a pet.
- --- 3. I know the names of many different flowers.

- --- 4. I know the names of many different wild animals.

- --- 5. I like to hike and to be outdoors.

- --- 6. I notice the trees and plants in my neighborhood.

Teachers may adapt the language and accompanying activities to suit the needs of the language learners in their classes. Word finds, pair dictations, dictionary and spelling work, focused listening, and grammar activities can help learners become comfortable with the inventory language even while they are engaged in skills work. Teachers may choose to let the students decide whether or not to score the inventory. Other activities, such as dialog journals, murals or bulletin boards, and small group conversations also offer adult ESL learners opportunities to reflect on their own strengths. The ideas and information that come from these activities can inform learner needs assessment and goal-setting processes.

2. As a tool to develop a better understanding of learners' intelligences. An understanding of MI theory broadens teachers' awareness of their students' knowledge and skills and enables them to look at each student from the perspective of strengths and potential. Teachers also become aware of the different ways in which students may demonstrate their understanding of material. MI theory provides a structured way of understanding and addressing the diversity that ESL instructors often encounter in the classroom (Christison, 1996). On a given topic or skill, teachers can brainstorm with learners a list of activities to practice. For instance, beginners can learn about consumerism by making and labeling collages of merchandise, reading newspaper ads, developing dialogues, or going on a scavenger hunt to the store. In this way, each learner can acquire language skills by employing individual strengths or preferences.

3. As a guide to provide a greater variety of ways for students to learn and to demonstrate their learning. Identification of personal strengths can make students more receptive to nontraditional learning activities and can give students a successful experience that builds their confidence as learners. As learners and teachers work together, intelligences can emerge naturally through partner interviews, preference grids (I can..., I like to...), and needs assessments. However, some teachers have encountered at least initial resistance to this process of describing intelligences among

students whose cultural or educational backgrounds emphasize more traditional modes of teaching and learning (Costanzo & Paxton, 1999). In this case, teachers may choose to focus learners' attention on the language they are practicing through these activities rather than on the theory. (More challenges to using MI-based activities in the adult ESL classroom are described in the upcoming study on MI from the National Center for the Study of Adult Learning and Literacy [Viens & Kallenbach, in press].)

Teachers have noted other positive effects of applying MI theory. A curriculum informed by MI theory provides a way of handling differing language skill levels within one class-a very common situation in adult ESL classes (Costanzo & Paxton, 1999). When multiple activities are available, more students can find ways to participate and take advantage of language acquisition opportunities. With an MI curriculum, students become aware that different people have different strengths and that each person has a substantive contribution to make (Kallenbach, 1999). This fits in well with project-based learning where students in a group can divide tasks based on individual strengths. For example, one learner might feel confident about planning, another might prefer to do the writing, and a third might feel able to present the project to the whole class.

4. As a guide to develop lesson plans that address the full range of learner needs. An MI-informed reading lesson may begin with typical prereading activities (reviewing earlier material, predicting what will happen next), followed by silent reading or reading aloud with discussion of vocabulary and text meaning. Learners can then complete a project, individually or in groups, to demonstrate their understanding of the text. The teacher offers a choice of projects, such as descriptive writing, map drawing, illustration, creation of a dialogue or skit, making a timeline, song writing, and retelling. The objective is not to teach to specific intelligences or to correlate intelligences with specific activities, but rather to allow learners to employ their preferred ways of processing and communicating new information (Coustan & Rocka, 1999).

Teachers using this type of lesson report that students become more engaged in and enthusiastic about reading; the students gain greater understanding of material when they express what they have read in ways that are comfortable for them; and their reading strategies improve as

reading becomes a tool for completion of projects they are interested in (Coustan & Rocka, 1999).

## CONCLUSION

Teachers who use MI theory to inform their curriculum development find that they gain a deeper understanding of students' learning preferences and a greater appreciation of their strengths. Students are likely to become more engaged in learning as they use learning modes that match their intelligence strengths. In addition, students' regular reflection on their learning broadens their definitions of effective and acceptable teaching and learning practices. Students' increased engagement and success in learning stimulates teachers to raise their expectations, initiating a powerful expectation-response cycle that can lead to greater achievement levels for all.

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The National Clearinghouse for ESL Literacy Education (NCLE) is operated by the Center for Applied Linguistics (CAL) with funding from the U.S. Department of Education (ED), Office of Vocational and Adult Education, under contract no. RI 93002010. The opinions expressed in this report do not necessarily reflect the positions or policies of OERI or ED. 

# Understanding and Facilitating Change in Higher Education in the 21st Century

A critical synthesis of research literature on the process of organizational change at the institutional level is needed because higher education is being asked to be responsive to an ever-changing environment. This work focuses on providing the reader several key insights into the change process by (1) presenting a common language for organizational change; (2) describing the multidisciplinary research base on change; (3) highlighting the distinct characteristics of higher education institutions and how this might influence the change process; (4) reviewing models/concepts of organizational change derived within higher education, comparing and contrasting different approaches; and (5) providing principles for change based on a synthesis of the research within higher education. PROVIDING A LANGUAGE FOR UNDERSTANDING ORGANIZATIONAL CHANGE

Some generic definitions of organizational change have been offered by theorists. For example, Burnes noted that organizational change refers to understanding alterations within organizations at the broadest level among individuals, groups, and at the collective level across the entire organization (1996). Another definition is that change is the observation of difference over time in one or more dimensions of an entity (Van de Ven and Poole, 1995). But these definitions fail to capture the assumptions inherent in different models or theories of change. For example, cultural and social-cognition theories of change would replace the word observation with the word perception in the second definition above. Theorists exploring change through a cultural or social-cognition perspective would examine not dimensions (typically organizational structural characteristics such as size), but values or organizational participants' mental maps. Because the language relating to change differs, a common language is difficult to find. However, certain concepts are common across various models, such as forces or sources of change and first-order or second-order change. These common concepts are noted within key sources of change literature such as Burnes, 1996; Goodman, 1982; Levy and Merry, 1986; and Rajagopalan and Spreitzer, 1996. As these scholars studied change, these concepts became critical points of concern in their analyses. Forces and sources examine the why

of change. First and second/second order, scale, foci, timing, and degree all refer to the what of change. Adaptive/generative, proactive/reactive, active/static, and planned/unplanned refer to the how of change. Last, the target of change refers to the outcomes. As a campus begins to engage in a change process, members of the organization need to first examine why they are about to embark on the process, the degree of change needed, and what is the best approach to adopt.

## THEORIES OF CHANGE

Six main categories of theories of change assist in understanding, describing, and developing insights about the change process: (1) evolutionary, (2) teleological, (3) life cycle, (4) dialectical, (5) social cognition, and (6) cultural. Each model has a distinct set of assumptions about why change occurs, how the process unfolds, when change occurs and how long it takes, and the outcomes of change. The main assumption underlying evolutionary theories is that change is a response to external circumstances, institutional variables, and the environment faced by each organization (Morgan, 1986). Social systems as diversified, interdependent, complex systems evolve naturally over time because of external demands (Morgan, 1986). Teleological theories or planned change models assume that organizations are purposeful and adaptive. Change occurs because leaders, change agents, and others see the necessity of change. The process for change is rational and linear, as in evolutionary models, but individual managers are much more instrumental to the process (Carnall, 1995; Carr, Hard, and Trahant, 1996). Life-cycle models evolved from studies of child development and focus on stages of growth, organizational maturity, and organizational decline (Levy and Merry, 1986). Change is conceptualized as a natural part of human or organizational development. Dialectical models, also referred to as political models, characterize change as the result of clashing ideology or belief systems (Morgan, 1986). Conflict is seen as an inherent attribute of human interaction. Change processes are considered to be predominantly bargaining, consciousness-raising, persuasion, influence and power, and social movements (Bolman and Deal, 1991). Social-cognition models describe change as being tied to learning and mental processes such as sense making and mental models. Change occurs because individuals see a need to grow, learn, and change their behavior. In cultural models, change occurs naturally as a response to alterations in the human environment; cultures are always changing

(Morgan, 1986). The change process tends to be long-term and slow. Change within an organization entails alteration of values, beliefs, myths, and rituals (Schein, 1985). Some researchers suggest using several models or categories, as each sheds light on different aspects of organizational life (Van de Ven and Poole, 1995). The advantage to multiple models is that they combine the insights of various change theories. Bolman's and Deal's (1991) re-framing of organizations and Morgan's (1986) organizational metaphors illustrate how assumptions from teleological, evolutionary, political/cultural, social- cognition, and lifecycle models can be combined to understand change.

## UNDERSTANDING THE NATURE OF HIGHER EDUCATION ORGANIZATIONS: KEY TO

## SUCCESSFUL ORGANIZATIONAL CHANGE

There are two main reasons it is necessary to develop a distinctive approach to change within higher education: overlooking these factors may result in mistakes in analysis and strategy, and using concepts foreign to the values of the academy will most likely fail to engage the very people who must bring about the change. In order to develop a distinctive model, the following unique features of higher education institutions need to be taken into account: *Interdependent organization *Relatively independent of environment *Unique culture of the academy *Institutional status *Values-driven *Multiple power and authority structures *Loosely coupled system *Organized anarchical decision-making *Professional and administrative values *Shared governance *Employee commitment and tenure *Goal ambiguity *Image and success. Although not an exhaustive list, this represents some of the key features of higher education institutions that affect organizational change. (For a more detailed description of these characteristics, see Birnbaum, 1991.)

In light of these distinctive organizational features, higher education institutions would seem to be best interpreted through cultural, social-cognition, and political models. The need for cultural models seems clear from the embeddedness of members who create and reproduce the history and values, the stable nature of employment, the strong organizational identification of members, the emphasis on values, and the multiple organizational cultures. Because there are no bottom-line measures for examining performance in higher education, image and identification are

extremely important in understanding if change is occurring and how it occurs. The relationships of image and identification to change seem to indicate that social cognition is important to understand. Furthermore, the loosely coupled structure, anarchical decision-making, and ambiguous goals make meaning unclear, and social-cognition models' emphasis on multiple interpretations may be important to consider when examining and facilitating change. The shared governance system, organized anarchy, conflicting administrative and professional values, and ambiguous, competing goals also point to a need for the interpretive power of political models. Evolutionary models are important for understanding the impact of environmental factors on change, such as accreditation, foundations, and legislatures in an interdependent system, especially since these factors are growing in magnitude and influence. However, even though a higher education institution is an open system, it may have internal consistency and logic that can be damaged by the intrusion of external environmental forces.

## HIGHER EDUCATION MODELS OF CHANGE: EXAMINATION THROUGH THE TYPOLOGY OF

## SIX MODELS

An extensive review of all the research on change conducted specifically within higher education, and within the framework of the six theories outlined above, provides a set of insights about the change process in this context. The cumulative evidence, so far, suggests that organizational change can best be explained through political, social-cognition, and cultural models. Political processes such as persuasion, informal negotiation, mediation, and coalition-building appear to be very powerful strategies for creating change (Conrad, 1978; Hearn, 1996). Social-cognition models illustrate the importance of altering mental models, learning, constructed interaction, and other processes for creating change (Eckel and Kezar, forthcoming; Weick, 1995). Cultural models demonstrate the importance of symbolism, history and traditions, and institutional culture for facilitating change on campus (Cohen and March, 1974; Kezar and Eckel, forthcoming). Evolutionary models highlight some key characteristics of change, such as homeostasis, interactivity of strategies, or accretion, that appear important to understanding change. Life-cycle models have not, for the most part, been applied to higher education institutions, but show promise for helping to develop

explanations of how organizational change occurs. There is mixed evidence about the explanatory power of teleological models, but to date they appear to have limited support from the research in terms of how change actually occurs in higher education and of efficacy for facilitating change. Some strategies, such as incentives or vision, have proven successful for creating change.

## RESEARCH-BASED PRINCIPLES OF CHANGE

A complex set of research-based principles emerges from this extensive review of the research. These principles include:

- * Promote organizational self-discovery
- * Be aware of how institutional culture affects change
- * Realize that change in higher education is often political
- * Lay groundwork for change
- * Focus on adaptability
- * Construct opportunities for interaction to develop new mental models
- * Strive to create homeostasis and balance external, forces with internal environment
- * Combine traditional teleological tools such as establishing vision, planning, or strategy with social-cognition, cultural, and political strategies
- * Be open to a disorderly process
- * Facilitate shared governance and collective decision-making
- * Articulate core characteristics
- * Focus on image
- * Connect the change process to individual and institutional identity
- * Create a culture of risk and help people in changing belief systems

- * Be aware that various levels or aspects of the organization will need different change models

- * Realize that strategies for change vary by change initiative

- * Consider combining models or approaches, as is demonstrated within the multiple models These will help you to develop a systematic and systemic process of change that works with individuals, acknowledges change as a human process, is sensitive to the distinctive characteristics of higher education, is context- based, achieves balance of internal and external forces, and is open to creativity and leveraging change through chance occurrences.

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# Creating a Learning Organization

School leaders in a whimsical mood sometimes play a parlor game called 'Spot That Jargon,' in which the goal is to name as many past educational fads as possible. The list is usually impressive: dozens of would-be reforms that were introduced with great fanfare and then quickly faded away.

The game is played with tongue in cheek, but it often stirs some sad reflections. Why are schools so susceptible to enthusiastic but short-lived fads? What makes it so difficult to turn a promising idea into a lasting contribution?

Such questions have recently sparked interest in yet another new idea: 'the learning organization.' According to some theorists, schools that dedicate themselves to systematic, collaborative problem-solving can "continually" develop and implement new ideas, thereby not just improving but transforming themselves. Does research support this optimistic view? Or will the learning organization, five years from now, be just another entry on the jargon list?

## CAN SCHOOLS BE LEARNING ORGANIZATIONS?

Kenneth Leithwood and colleagues (1995) define a learning organization as:

a group of people pursuing common purposes (individual purposes as well)

with a collective commitment to regularly weighing the value of those

purposes, modifying them when that makes sense, and continuously

developing more effective and efficient ways of accomplishing those

purposes.

Although this is an inspiring vision, schools may be far from achieving it. Teacher isolation, lack of time, and the complexity of teaching present

significant barriers to sustained organizational learning (Larry Lashway 1997).

Not surprisingly, researchers have often found that substantive changes in teaching practices are elusive. Richard Elmore and colleagues (1996) discovered that even when teachers were willing to learn new methods, they often applied them in a superficial or inconsistent way, offering the appearance but not the substance of real change.

Moreover, while rhetoric on learning organizations is plentiful, thoughtful research is harder to find. Summing up their study of the literature, Leithwood and colleagues noted that 'we have almost no systematic evidence describing the conditions which foster and inhibit such learning.'

Despite this vein of pessimism, other researchers have begun to identify schools in which entire faculties have become proficient in new forms of instruction, resulting in immediate impact on student learning and behavior. The remainder of this Digest highlights several key findings from this work.

## HOW CAN STAFF LEARNING BE FOCUSED?

Educational reforms are often undertaken in a rushed atmosphere, with a dozen different initiatives going on simultaneously. Training may consist of a one-day workshop, with little provision for practice and feedback.

Beverly Showers, Carlene Murphy, and Bruce Joyce (1996) studied three schools that undertook a systematic, sustained reform that focused on several models of teaching with a strong research base, including cooperative learning, concept-attainment, and synectics. These models were designed to supplement teachers' existing strategies, not replace them.

The models were taught in three steps to all teachers. The first phase was designed to give teachers a theoretical understanding of the new concepts. This was followed by multiple demonstrations (mainly videotapes of classroom instruction) and opportunities to practice the new skills in the workshop setting.

Showers and colleagues note that this intensive workshop model is sufficient for teachers to introduce new strategies in their classrooms, but without additional support fewer than 10 percent will persist long enough to integrate the new skills into their repertoire. They maintain that proficiency requires twenty to thirty trials under classroom conditions. Thus they encouraged teachers to use the new methods immediately and frequently, and to organize themselves into study teams for sharing, observation, and peer coaching.

The results were notable. At the end of the first year, 88 percent of the teachers were using the new strategies regularly and effectively. In one middle school, promotion rates soared, while the average achievement test score jumped from the twenty-fifth to the forty-second percentile. In addition, disciplinary referrals dropped to about one-fifth the previous level.

## HOW IS LEARNING DRIVEN BY DATA?

Bruce Joyce and Emily Calhoun (1996) note that schools are 'both information-rich and information- impoverished.' School personnel collect a prodigious amount of information, from test scores to attendance figures, yet rarely link this wealth of data to school-improvement efforts.

Joyce and Calhoun cite the case of a middle school in which only 30 percent of the students earned promotion at the end of each year. Although these figures were known for years to everyone in the school, the faculty had never met to reflect on the failure rate or study the causes. When a staff development program finally focused attention on the figures, the situation began to change. Within two years, 95 percent of the students were being promoted.

Focusing on data confronts staff with hard evidence that may challenge existing perceptions of success; discrepancies raise sharp questions about what is happening and why. In addition, monitoring data provides a good way of tracking the effects of change efforts. Joyce and Calhoun point out that this is especially important in convincing faculty that students can achieve more than they thought possible. Finally, study of data often leads to a desire for more information. As reform efforts proceed, the school generates increasingly sophisticated data and uses it in a meaningful way.

## WHAT CHANGES IN THE WORKPLACE SUPPORT ORGANIZATIONAL LEARNING?

Some studies point to changes in the workplace as a key to successful organizational learning.

First, schedules and assignments should allow time for collective inquiry. Joyce and Calhoun argue that significant reform is "nearly impossible" in a typical school workplace; at best, people will move forward as individual 'points of light,' but they will be unable to form a learning community.

Thus, schools must provide time for teachers to work and reflect together. Some schools, using early dismissal one afternoon a week, have been able to clear out significant blocks of time. In addition, Sharon Kruse and Karen Louis (1993) point out the importance of well-developed communication structures such as email and regular faculty meetings, as well as a common space for working.

Collective inquiry may be strengthened by more democratic forms of governance. Joyce and Calhoun advocate the formation of 'Responsible Parties' to lead the school community in improvement efforts. These groups, composed of administrators, teachers, parents, and community members, would not be traditional parliamentary decision-making groups, but would act as champions for extended inquiry.

Guiding such diverse groups (whose members may have differing agendas and little experience working together) is especially challenging for leaders. Laura Lipton and Robert Melamede (1997) suggest that the key to successful group dynamics is dialogue rather than debate, with the emphasis on listening, suspending judgment, and seeking common understanding. In successful dialogue, participants learn not to march directly toward the nearest solution but to examine assumptions and share multiple perspectives that open the way to new types of collective learning.

Finally, new strategies appear to be best learned in small groups that provide motivation, support, sympathetic sounding boards, and technical assistance (Joyce and Calhoun).

## WHAT IS THE LEADER'S ROLE?

Creating a learning organization requires a deep rethinking of the leader's role. Principals and superintendents must see themselves as 'learning leaders' responsible for helping schools develop the capacity to carry out their mission. A crucial part of this role is cultivating and maintaining a shared vision (Lashway, Leithwood and colleagues, Lipton and Melamede). The vision provides focus, generating questions that apply to everyone in the organization. Learning becomes a collaborative, goal-oriented task rather than a generalized desire to 'stay current.'

At a more mundane level, leaders must tend to the organizational structures that support continuous learning, squeezing time out of a busy schedule, collecting and disseminating information that accurately tracks the school's performance, and creating forms of governance that support collective inquiry.

Perhaps most important, leaders must view their organizations as learning communities, for faculty as well as students. This requires casting school improvement in terms of hypotheses to be tested rather than solutions to be handed out, attacking the barriers to collaboration, and making decisions democratically rather than bureaucratically (Joyce and Calhoun). When the spirit of inquiry permeates the daily routine, schools are on their way to becoming true learning organizations.

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This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract No. OERI RR93002006. The ideas and opinions expressed in this Digest do not necessarily reflect the positions or policies of OERI, ED, or the Clearinghouse. 

# Multiple Intelligences: Gardner's Theory

Arguing that "reason, intelligence, logic, knowledge are not synonymous...," Howard Gardner (1983) proposed a new view of intelligence that is rapidly being incorporated in school curricula. In his Theory of Multiple Intelligences, Gardner expanded the concept of intelligence to also include such areas as music, spacial relations, and interpersonal knowledge in addition to mathematical and linguistic ability.

This digest discusses the origins of Gardner's Theory of Multiple Intelligences, his definition of intelligence, the incorporation of the Theory of Multiple Intelligences into the classroom, and its role in alternative assessment practices.

## SEVEN INTELLIGENCES

Gardner defines intelligence as "the capacity to solve problems or to fashion products that are valued in one or more cultural setting" (Gardner & Hatch, 1989). Using biological as well as cultural research, he formulated a list of seven intelligences. This new outlook on intelligence differs greatly from the traditional view which usually recognizes only two intelligences, verbal and computational. The seven intelligences Gardner defines are:

Logical-Mathematical Intelligence--consists of the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking.

Linguistic Intelligence--involves having a mastery of language. This intelligence includes the ability to effectively manipulate language to express oneself rhetorically or poetically. It also allows one to use language as a means to remember information.

Spatial Intelligence--gives one the ability to manipulate and create mental images in order to solve problems. This intelligence is not limited to visual domains--Gardner notes that spatial intelligence is also formed in blind children.

Musical Intelligence--encompasses the capability to recognize and compose musical pitches, tones, and rhythms. (Auditory functions are required for a person to develop this intelligence in relation to pitch and tone, but it is not needed for the knowledge of rhythm.)

Bodily-Kinesthetic Intelligence--is the ability to use one's mental abilities to coordinate one's own bodily movements. This intelligence challenges the popular belief that mental and physical activity are unrelated.

The Personal Intelligences--includes interpersonal feelings and intentions of others--and intrapersonal intelligence--the ability to understand one's own feelings and motivations. These two intelligences are separate from each other. Nevertheless, because of their close association in most cultures, they are often linked together.

Although the intelligences are anatomically separated from each other, Gardner claims that the seven intelligences very rarely operate independently. Rather, the intelligences are used concurrently and typically complement each other as individuals develop skills or solve problems. For example, a dancer can excel in his art only if he has 1) strong musical intelligence to understand the rhythm and variations of the music, 2) interpersonal intelligence to understand how he can inspire or emotionally move his audience through his movements, as well as 3) bodily-kinesthetic intelligence to provide him with the agility and coordination to complete the movements successfully.

## BASIS FOR INTELLIGENCE

Gardner argues that there is both a biological and cultural basis for the multiple intelligences. Neurobiological research indicates that learning is an outcome of the modifications in the synaptic connections between cells. Primary elements of different types of learning are found in particular areas of the brain where corresponding transformations have occurred. Thus, various types of learning results in synaptic connections in different areas of the brain. For example, injury to the Broca's area of the brain will result in the loss of one's ability to verbally communicate using proper syntax. Nevertheless,this injury will not remove the patient's understanding of correct grammar and word usage.

In addition to biology, Gardner (1983) argues that culture also plays a large role in the development of the intelligences. All societies value different types of intelligences. The cultural value placed upon the ability to perform certain tasks provides the motivation to become skilled in those areas. Thus, while particular intelligences might be highly evolved in many people of one culture, those same intelligences might not be as developed in the individuals of another.

## USING MULTIPLE INTELLIGENCES IN THE CLASSROOM

Accepting Gardner's Theory of Multiple Intelligences has several implications for teachers in terms of classroom instruction. The theory states that all seven intelligences are needed to productively function in society. Teachers, therefore, should think of all intelligences as equally important. This is in great contrast to traditional education systems which typically place a strong emphasis on the development and use of verbal and mathematical intelligences. Thus, the Theory of Multiple Intelligences implies that educators should recognize and teach to a broader range of talents and skills.

Another implication is that teachers should structure the presentation of material in a style which engages most or all of the intelligences. For example, when teaching about the revolutionary war, a teacher can show students battle maps, play revolutionary war songs, organize a role play of the signing of the Declaration of Independence, and have the students read a novel about life during that period. This kind of presentation not only excites students about learning, but it also allows a teacher to reinforce the same material in a variety of ways. By activating a wide assortment of intelligences, teaching in this manner can facilitate a deeper understanding of the subject material.

Everyone is born possessing the seven intelligences. Nevertheless, all students will come into the classroom with different sets of developed intelligences. This means that each child will have his own unique set of intellectual strengths and weaknesses. These sets determine how easy (or difficult) it is for a student to learn information when it is presented in a particular manner. This is commonly referred to as a learning style. Many learning styles can be found within one classroom. Therefore, it is impossible, as well as impractical, for a teacher to accommodate every lesson to all of the learning styles found within the classroom.

Nevertheless the teacher can show students how to use their more developed intelligences to assist in the understanding of a subject which normally employs their weaker intelligences (Lazear, 1992). For example, the teacher can suggest that an especially musically intelligent child learn about the revolutionary war by making up a song about what happened.

## TOWARDS A MORE AUTHENTIC ASSESSMENT

As the education system has stressed the importance of developing mathematical and linguistic intelligences, it often bases student success only on the measured skills in those two intelligences. Supporters of Gardner's Theory of Multiple Intelligences believe that this emphasis is unfair. Children whose musical intelligences are highly developed, for example, may be overlooked for gifted programs or may be placed in a special education class because they do not have the required math or language scores. Teachers must seek to assess their students' learning in ways which will give an accurate overview of the their strengths and weaknesses.

As children do not learn in the same way, they cannot be assessed in a uniform fashion. Therefore, it is important that a teacher create an "intelligence profiles" for each student. Knowing how each student learns will allow the teacher to properly assess the child's progress (Lazear, 1992). This individualized evaluation practice will allow a teacher to make more informed decisions on what to teach and how to present information.

Traditional tests (e.g., multiple choice, short answer, essay...) require students to show their knowledge in a predetermined manner. Supporters of Gardner's theory claim that a better approach to assessment is to allow students to explain the material in their own ways using the different intelligences. Preferred assessment methods include student portfolios, independent projects, student journals, and assigning creative tasks. An excellent source for a more in-depth discussion on these different evaluation practices is Lazear (1992).

## CONCLUSION

Schools have often sought to help students develop a sense of accomplishment and self-confidence. Gardner's Theory of Multiple Intelligences provides a theoretical foundation for recognizing the different abilities and talents of students. This theory acknowledges that while all students may not be verbally or mathematically gifted, children may have an expertise in other areas, such as music, spatial relations, or interpersonal knowledge. Approaching and assessing learning in this manner allows a wider range of students to successfully participate in classroom learning.

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# Adult Learning in Nonformal Institutions

Museums, zoos, nature centers, science centers, aquariums, and other similar institutions provide a tremendous opportunity for lifelong learning in a relatively nonthreatening setting for most adults (Schroeder 1970). Many of these attractions and museums include education as a part of their missions (see, for example, Allmon 1994; Chizar, Murphy, and Illiff 1990; Conway 1982) and the popularity of these places as providers of both recreation and education is well established (Chobot 1989). This Digest explores some of the central concepts of adult learning in these settings. A brief discussion of nonformal learning and the adult visitor lays the foundation for the examination of ideas in the literature on (1) what is educational in attractions, (2) opportunities and challenges to education in these settings, and (3) the application of adult learning theory to zoo, museum, center, and attraction education.

## ADULT VISITORS AND NONFORMAL LEARNING

Nonformal learning is often defined by activities outside the formal learning setting, characterized by voluntary as opposed to mandatory participation (Crane et al., 1994). Mocker and Spear (1982) offer a taxonomy of adult learning wherein nonformal learning is identified as learners holding the objectives for learning with the means controlled by the educator or organization. Maarschalk (1988) contrasts nonformal learning (i.e., outside formal settings--such as field trips and museum visits) with informal learning (i.e., that which grows out of spontaneous situations).

In zoos, museums, nature centers, and attractions, adult learning can range from formal through nonformal to informal. Workshops, lectures, classes, and educational "shows" are some of the common formal adult learning programs; tours, informational signage, exhibits/interactive displays, and demonstrations are often considered nonformal learning constructed by the education staff; the individual visitor and the setting create informal learning situations (Diem 1994).

For whom are these opportunities constructed? In a study of zoo visitors, Conway (1982) found that between 55-70% of all zoo visitors are adults.

Hundreds of millions of people visit museums, zoos, nature centers, science centers, and other attractions (Falk and Dierking 1992). In North America, for example, over 100 million people visit zoos and aquariums each year (Eaton 1981; Howard 1989; Marshall 1994), and over 500 million visit museums (Naisbitt and Aburdene 1990). This translates to a tremendous population of learners. Adults more often than children suggest the visit (Cheek, Field, and Burdge 1976) and are also the societal decision makers whose actions directly affect the attraction, whether the decision is simply to visit or to support funding for expansion or renovation (Diem 1994). It makes sense, therefore, to consider how better to serve the learning needs of these adult visitors.

Not all visitors come for the purpose of learning. Beer (1987), for example, found slightly over half the visitors came to a museum with learning as a purpose. Other researchers (e.g., Hood 1983; Miles 1986) found much lower numbers. In a study by Hood and Roberts (1994), younger adult visitors had greater social goals in attendance, and, of the 18- to 34-year-olds, fewer than one-third attended for family outings. Studies such as these suggest there are many adult visitors attending for primarily social reasons and that learning may need to be constructed in a manner that supports the social activity.

Learning, however, is not restricted to those who attend with the intent of learning. One study in an historical center found most visitors could recall historical facts from the exhibits and could also assign meaning to the exhibits (Boggs 1977). In another study, the knowledge gain of adult visitors was no greater for those who came to learn than those who came for social reasons (Miles 1986). Overall, however, the research in this arena suggests that adult visitors rarely demonstrate significant recall of facts and concepts encountered during visits (Falk and Dierking 1992), which creates both opportunities and challenges for the institutions.

## EDUCATIONAL SYSTEMS

Many nonformal organizations or institutions have education staff or curators who oversee the education and outreach functions. Often supported by docent or volunteer corps, these departments develop signage, exhibits (including interactives and immersion exhibits), outreach, visitor services, guided tours, program/show notes, workshops, lectures, shows, and speakers bureaus. Often small in personnel numbers,

these departments frequently are responsible for how people experience the visit.

People come to these places to see the "stuff" (Watkins 1994). The educational opportunities arise out of the very human reaction to these real things--plants, animals, art, natural wonders, or collections (Resnicow 1994). The nature of an attraction, however, provides the educators with but an instant to capture, hold, and engage attention (Roberts 1994). The challenge, then, is to use the nature of the attraction to turn what may appear to be entertainment into a tool with which to encourage visitors in terms comfortable to them so they may be drawn to deeper levels of involvement (Resnicow 1994).

## APPLYING ADULT LEARNING THEORY

Adults come to the learning with an array of experiences and lifelong constructed knowledge. Often, lifelong learning centers such as zoos, museums, and science or nature centers must correct misinformation before new or desired learning can occur (Borun, Massey, and Lutter 1992). Within the visit, the free choices of attendance and learning create a fundamental dependency on addressing the interests and the beliefs of the adult learner (Falk and Dierking 1992).

Destination sites are often viewed as having the potential to introduce people to art, ideas, history, nature, and knowledge. These sites, however, can do more than create interest or inspire curiosity (Watkins 1994). They can allow visitors to become engaged with ideas, even when the visit is for social purposes (Lucas 1991).

To engage the adult visitor effectively, education programs can use traditional adult education principles to enhance the visit for the purpose of learning. One of Knowles' (1970) assumptions of the adult learner is that learners seek information that fits their societal roles. Visitors to attractions consciously or subconsciously seek to learn about themselves and their cultural heritage (Kramer 1994). Adults visit those places where they feel comfortable, places that are nonintimidating, user friendly, and speak in the language of the uninitiated public (Resnicow 1994).

Attractions themselves present experiences; it is the nature of an experience to be determined and interpreted largely by the individual

(Boud, Keough, and Walker 1985). The education staff are ultimately responsible for creating the opportunities for learning that may arise from the experience of the visit. The fields of interpretation and museum curation continually assess the impact of placement of kiosks, signs, interactives, and displays on learning.

Increasingly, institutions are using interpretive layering, which provides information in small, layered levels so that visitors can choose to absorb the essence of the exhibit without filtering through complex descriptions or discussions. Learners can engage in giving longer time to selective data or discussion. A trend in exhibit interpretation is in simplifying information to reduce the cognitive difference between the actual scholarship source and the lay visitor (Watkins 1994). Posing issues as questions encourages visitors to confirm propositions actively in the exhibit with the goal being that the visitor gains ownership of ideas the educator seeks to cover or to share with the visitor (Spicer 1994).

## CONCLUSION

Whether the purpose of the visit is social or educational, adult visitors attend attractions with an overall positive, affective attitude. Learning is a natural lifelong process, and learning episodes can vary from incidental learning to intentional learning projects (Tough 1972). Learning in attraction settings can rely on the natural occurrence of the process of learning and can be enhanced with guidance and facilitation through construction of learning opportunities by educators (Heimlich 1993).

The haptic need for adults to experience something physically (touch, feel, smell, etc.), rather than read or hear about it, is a major reason nonformal institutions exist (Allmon 1994). Natural learning, as described by McCombs et al. (1991), includes action, volition, internal mediation, and individual meaning making. In the nature of their attraction, nonformal institutions provide a setting where this natural learning can occur. Ultimately, the role of the educator in this setting is to enhance the attraction and help guide the adult visitor to new levels of understanding and action.

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