

Learning Styles: Are they fundamental to quality education?

Abstract

In the last few years numbers of educators have insisted that attention should be paid to students' learning styles. Demands for change in curriculum, methodology, and classroom structure have suggested that if students could select the strategies that mesh with their learning style, the achievement levels and competencies of students would be raised substantially. In this paper the learning styles theories and claims of the Dunns, McCarthy, and Myers are examined with reference to their insistence on change and promises of student improvements. It is suggested that the learning styles theorists are creative and sensitive teachers whose theories are not necessarily innovative in education.

Résumé

Depuis quelques années, un certain nombre d'enseignants insistent sur l'importance qu'il convient d'attacher aux modes d'apprentissage des étudiants. Les demandes de modification des programmes d'enseignement, la méthodologie et la structure des salles de classe donnent à penser que si les étudiants pouvaient choisir les stratégies qui s'harmonisent avec leur mode d'apprentissage, leurs compétences et leurs résultats s'amélioreraient d'autant. Dans cet article, les théories sur les modes d'apprentissage et les revendications de R. et K. Dunn, McCarthy et Myers sont examinées à la lumière de l'insistance avec laquelle ils préconisent des changements et des promesses de voir les étudiants s'améliorer. Les théoriciens des modes d'apprentissage sont dépeints comme des enseignants créatifs et sensibles dont les théories pédagogiques ne sont pas nécessairement novatrices.

In the last decade of educational innovations, the term "learning styles" has come to be increasingly accepted as the crucial motivator for excellence in the nineties (Lawrence, 1982). Teacher conventions offer workshops and seminars on teaching and learning styles; administrators and business managers attend conferences to explore their leadership styles (Honey & Mumford, 1983). Style in these contexts does not mean a fashion in the popular, ever-changing notion of style; style in the context of learning, teaching, and leadership means a uniqueness, a difference in being from others that enables each of us to accept self and others as of equal value and ability but with a different "style." According to Dunn and Griggs (1988), "[l]earning style is a biologically and developmentally imposed set of characteristics that make the same teaching method wonderful for some and terrible for others" (p.3). If each one could be made aware of his/her unique learning style to be meshed with another's teaching or leadership style, the educational process would result in greater successes than it has known.

At a time when the hue and cry of illiteracy, "educational impoverishment" (Bloom, 1987), and diminishing student achievements are often in the forefront of sloganeering and the media, it is appropriate to ask whether learning style awareness is to be the antidote for educational shortcomings. Dunn and Griggs (1988) claim enhanced achievement levels, motivational incentives, and educational relevance for those who learn and teach with style diagnosis. They argue forcefully for change in the present educational scene, and they are not lone crusaders. "Most people do not like change, . . . but we are educators, and many years ago we promised ourselves that we are going to be good educators, ones who think and care" (Dunn & Griggs, 1988, p. 1). In 1980, McCarthy had already stated that: "Change indeed is painful, yet necessary. If we are to be true to our students, we teachers must bear this pain" (p. 70).

But what is it that must change? To what extent is this demand for change another bandwagon in educational circles? In the past twenty years we have witnessed the open classroom concept, the integrated day, learning centres, upgraded classrooms, program continuities, math their way, and global education. Is the learning style continuous with these innovations, or does it call for a more radical change? Will learning styles provide the answer to the ever-prevailing dilemma of teaching content vs. student needs? Can the system, the curriculum content, and the teacher accommodate the learning style demands?

This paper seeks to explore the answers to some of these questions pertaining to change, demands, and accommodations by looking at what is seen to constitute learning styles by different theorists. Ultimately the question consists of whether a framework of individual style-differences is

so radically new and, if it is, whether it is a desirable framework for educational change in the coming years.

Learning Styles

Lynn Curry (1987), in a publication endorsed and recommended for educators by the **National Association of Secondary School Principals**, has organized much of the learning style documentation and diagnostic instruments by means of an onion metaphor. Although the poorly copied and typed format of the document does not inspire confidence in a report, the onion metaphor does provide an intriguing image for organization. The outer layer contains the "instructional preferences," the middle layer consists of "information processing," and the innermost layer contains what she labels the "cognitive personality." As one moves from the outer to the inner layer the individual is less amenable to change, and the demands for educational-system and content changes become greater.

Instructional preferences

Variations in instructional preferences describe the environmental elements, and the emotional, sociological, and physiological dimensions that influence how, when, where we learn best. Some of us learn with noise (e.g., Walkmans blaring); others require silence. Some need bright lights; others prefer low lighting. For some, informality is beneficial; others need more formal direction and structure. There are those who are highly motivated to succeed; there are many with low motivational levels. Group learning benefits many; others prefer to learn alone. Authority figures (i.e. lecturing teachers) are crucial for some learners; independence and self-chosen responsibilities benefit others. There are visual, auditory, tactile, and kinesthetic mode preferences in learning. Chronobiological differences acknowledge that some students are better performers in the early morning; others are better in the afternoon or evening. Some students require food and drink while studying; others find such "intake" activities distracting. According to Dunn and Griggs (1988), these differences are inherent and biological.

These instructional preferences are not limited to primary or elementary students; they are evident in high school, universities, and adult education. Teacher and system sensitivities to these differences have been frequent in primary and/or elementary school. Such awareness dissipates when students enter junior high and teachers become more subject-specific. By the time the students are enrolled in university courses, the classroom structures and curricular content disallow learning style awareness. Students choose to enter university because their learning style matches the teaching style, and they choose to specialize in those subjects which enable them to

succeed. Those who do not learn well in the given secondary and post-secondary systems, drop out, or choose other learning situations. For Dunn *et al.* (1988), learning style diagnosis and subsequent matched teaching situations would encourage many more students to choose to continue higher education.

Information processing

Kolb (1983) and McCarthy's (1980) dimensions of perception and processing (i.e., concrete experience vs. abstract conceptualization) are diagrammed in a four quadrant circle-shape typology. Quadrant one intuitors are experiential, feeling-directed individuals who observe and reflect and are innovative and divergent in their approach to learning. They ask "why?" when they are confronted with a task. Quadrant two intellectuals prefer to reflect on abstractions. They are the more analytical assimilators of knowledge who want to know "what?" is to be learned. Quadrant three implementors think abstractly by doing. They are primarily convergent thinkers who ask "how?" in learning situations. Quadrant four inventors are dynamic, feeling directed activists (i.e., doers) who ask "what if?" most frequently.

Since these four types of students present themselves in every classroom at all levels, instructional planning ought to take these differences into account (McCarthy, 1980). Units and lessons beginning with an experiential motivation phase provide interest and success for the students. The content phase of information processing in lectures or other forms of didactic teaching appeals to the intellectuals. The workbook, paper writing, and assignment phase encourages the implementors. The feedback, application, practicum component allows the inventors to be involved (Van Brummelen, 1988). Such four-phased lesson planning provides 100% of the students with meaningful learning at least 25% of the time. Since present classroom practices and methods appeal to the intellectuals and the implementors (quadrants two and three) types, no more than 50% of the students are engaged in learning their way when style differences are ignored. Although the quoted percentages are not the same for all learning style advocates, there is general agreement among the theorists that it cannot be expected that all types will learn in a mode that favours the intellectual-reflective type and essentially discourages the majority of the students from becoming engaged in meaningful learning (Lawrence, 1982; McCarthy, 1980).

The cognitive personality

The innermost layer that directs and affects our information processing and instructional preferences is composed of the personality

dimensions as described by C.G. Jung (1923/1971). According to Myers (1980) who, with her mother, devised the Myers-Briggs Type Assessment of personality on the basis of the Jungian typology, "seemingly chance variation in human behaviour is not due to chance; it is in fact the logical result of a few basic, observable differences in mental functioning" (p. 1).

Typology differences prevail because of differences in attitudes and functions (Jung, 1923/1971) or, as Myers calls them, "perceptions and judgments" (1980). The dimensions of extraversion/introversion depict people's relative interest in outer or inner reality. "The introvert's main interests are in the inner world of concepts and ideas, while the extravert is more involved with the outer world of people and things" (Myers, 1980, p.7). Sensing and intuition are sharply distinguishable and contrasting ways in which people perceive. For the sensing individual, the primary mode of learning is through the five senses. For intuitive persons, there is an inner awareness that directs them in their learning. There are two ways in which we can come to conclusions: through a logical, impersonal, thinking process; or through an appreciative, feeling judgment which values the personal and the subjective as the dominant mode. In dealing with the world around us, some of us are more openly perceptive; others are more closed and/or judgmental. The perceptive attitude is found in those who prefer to delay decision-making until all the evidence is in; the judging attitude prevails for those who deem that the time has come to stop "waffling" and to make a verdict.

Myers and Briggs' personality assessment describes sixteen distinct typologies on the basis of the dimensions of extraversion/introversion, sensing/intuiting, thinking/feeling, judging/perceiving. Combinations vary from the INTJ (introverted, intuitive, thinking, judging type) to the ESFP (extraverted, sensing, feeling, perceiving type). However, "pure" types, as in most things, are rare. Myers advocates that people have faith in their type and learn to develop their unique gifts in a world that too often negates their type as of equal worth and value.

Summary

The demanded changes correspond to the onion layers in moving from the periphery to the "heart of the matter." Dunn and Griggs' model essentially proposes a change in the setting to accommodate learner differences. Scheduling is to be flexible, seating arrangements less fixed, freedom of movement is to be available, and student involvements are self-chosen. For McCarthy, the changes involve teaching methodologies that will present all students with the same content but in a variety of ways. For Myers, it is crucial that the student comes to accept self as given; changes in the education of different types call for a diversity in program offerings,

content specifics, and standards of evaluation. All students cannot be expected to achieve the same levels of excellence, unless a level of excellence for each type can be constructed.

Teaching to Learning Type

The presented dilemma for educators now becomes the extent to which type is fixed or amenable to change and the extent to which content or subject-specifics can be stretched to accommodate differences. Is a painting a viable alternative to a written composition in a creative writing course? Learning style theorists are not in agreement as to what should be the focus for the educator. Do we "type" to teach or do we teach to "type"? The one approach makes typing mandatory for effective learning to take place; the other stresses the need for variety and "type"-difference awareness in curriculum and content demands.

Type assessment

Dunn and Griggs (1988) claim that: "Students can function well in school and enjoy it, if only we [educators] are willing to examine how they learn and then redirect the system – our educational system – to respond to their individual instructional needs" (p. 2). Traveling about the United States to observe learning style operative in a variety of secondary schools, they concluded that change from a rigid, controlling content-oriented lecturing approach to a more flexible, open, student-centred instructional strategy is a risk-taking change that needs to be implemented over several years.

But, according to Dunn and Griggs (1988), the results are well worth the risks. In Corsicana High (a large public high school in Texas), students were observed to be "highly motivated to achieve academically, and many expressed the belief that learning style assessment enabled them to obtain the grade point averages that made them eligible for scholarships" (p. 15). In a Chicago high school, students reported how "difficult school had been for them before learning styles [differentiated their instructional needs], but . . . they now easily accept the concept that everyone learns differently and that everyone can learn" (p. 25). In a rural Pennsylvania high school "we were told that students' grades had improved immeasurably, as had student interest and motivation" (p. 33).

There are difficulties in assessing learner type and styles, not the least of which is that "very few learning style identification instruments are reliable and valid" (Dunn & Griggs, 1988, p. 2). Since researchers tend to define the concepts differently, their created instruments tap into different dimensions and make cross-validation of instruments difficult to obtain. In

the Corsicana high school, teachers and students assessed sensory modalities to accommodate tactual/kinesthetic, auditory, and visual preferences. In Chicago, teachers and students used the *Teaching/Learning Inventory*, of Dunn and Dunn (1977), to assess instructional planning, teaching methods, student groupings, room design, classroom environment, evaluation techniques, and educational philosophy. In Pennsylvania and Minnesota, teachers used the National Association of Secondary School Principals' adaption of the Dunn and Dunn instrument known as *Student Styles: Diagnosing and Prescribing Programs*.

Because some of the instruments are more comprehensive than others, claims of increased motivation and performance are difficult to verify. Dunn and Dunn's (1977) style diagnosis has been linked to substantial gains in reading, arithmetic, language arts, and science (Curry, 1988). However, whether these gains are to be attributed to sensory modality awareness, or group learning, or chronobiological sensitivity, or the teaching environment, or the students' freedom of choice, or any combination of these cannot be deduced from the Curry report nor from Dunn and Griggs.

Structuring for types

For McCarthy, Kolb, and Van Brummelen, it is more important that teachers be sensitive to student style differences than that students be able to assess their own learning style. "All students need to be taught in all four ways, in order to be comfortable and successful part of the time while being stretched to develop other learning abilities" (McCarthy, 1980, p. 90). In McCarthy's model, teacher-designed activities for specific units are sequenced to have the class as a whole move through the phases of experience, knowledge, application, and action with a variety of methods that also tap into right brain/left brain mode preferences. McCarthy cites extensively from right brain/left brain research to argue that we are all "two-brained species, each having its special mind" (p. 73), and educators need to develop teaching methodologies that will effectively develop both modes because "both hemispheres are equally important" (p. 74).

Because the educational system favours verbal left-brain development, the model aims to redress the imbalance with the simultaneous development of the creative, nonverbal, holistic right hemisphere activity. "The goal of education should be to help our students develop a whole brain" (p. 77). It is time to teach the whole brain, the intellectual and the intuitive, the mind and heart, content-centred and student-centred curriculum" (McCarthy, 1980, p. 77). Our teaching and the educational system have created a false dichotomy (or brain split) because we have trained people to be much more comfortable with one style than another.

McCarthy provides extensive models of lesson plans that enable educators at elementary through college level to implement theory into practice. However, before teachers begin to apply the models, it is important that they assess their own learning and teaching style. The implementation of change involves a sensitivity to one's own tolerance for change; sometimes it may be possible to take no more than one small step at a time.

A change of type

McCarthy's impassioned plea to teach the "whole brain, intellectual and intuitive, mind and heart" (p. 77) suggests that one's learning style is not as "fixed" as Dunn and Griggs would have us believe. Although Curry's onion image with the cognitive "type" as the innermost disposition suggests that the type is not amenable to change. Myers' description of type development is not echoed in the source of her typology, i.e., C.G. Jung. According to Jung, the typologies do not necessarily function to characterize personalities for life. "The typologies' essential function is to be like the points on a compass ... to provide a critical tool for the researcher... to help in understanding the wide variations that occur among individuals" (Jung, 1923/1971, pp. 541, 555). In Myers-Briggs' assessment of typology the concluding "labels" obscure the fact that functions and attitudes are on a continuum and that there are various points along each assessed continuum which could make the differences between one extravert and another extravert greater than the differences between an extravert and an introvert. A typology assessment with its resulting INTJ or ESFP is a categorization; it does not assess unique styles or needs.

As to the question pertaining to change of type, according to Jung, the dominant functions and attitudes of thinking/feeling, sensing/intuiting, extraversion/introversion, judging/perceiving are complementary polarities. The dominant thinking type finds its recessive-feeling complement deep within the unconscious self. Development of personality does not consist of expansion of the dominant function or attitude at the expense of one's shadow or "latent" functions. Development consists of exploring the recessive as well as the dominant functions and attitudes of personality. Developmental changes in personality can make the introverted more extraverted, the sensing more intuitive, the feeling more thought-directed, the perceptive more judgmental.

Summary

Styles assessment necessarily precedes teaching methodologies, according to Dunn and Dunn (1977) and Dunn and Griggs (1988). The responsibility for choice lies with self-aware students who select from a

smorgasbord of teaching and learning situations to enhance their learning curriculum content. This same self-awareness is stressed in Myers' statements of "successful development of type being helped or hindered in the environment" (1988, p. 176). However, for McCarthy, it is more crucial that teachers be made aware of different learning styles in leading students to learn. Typing to teach essentially creates an attitude of: "I am unique; address my unique needs." Teaching for types, on the other hand, is a mentality of: there are different learning styles in the classroom which are to be developed through a multimodal variety of methods and activities.

Conclusion

It is clear from their writings that R. and K. Dunn, Griggs, and McCarthy are experienced classroom teachers; individuals who, in the course of teaching many students, felt compelled to change their teaching styles from the ways they had been trained to teach. As teachers they were creative, sensitive, flexible, and receptive to student needs. These are qualities that are to be desired for many teachers. They are not, however, the qualities which can be systemized into a diagnostic instrument with impressive reliability and validity indices that would enable one to weed out the promising future teachers from the less than desirable teacher trainees. They are also not the qualities which would correct all educational shortcomings and stifle the cries of "cultural illiteracy."

The changes which the learning style advocates demand are the changes which they found to be effective in their teaching situations. But, as McCarthy herself stated, teaching-style awareness should precede learning-style teaching because there are those for whom any change can be too burdensome.

And for those teachers who are presently sensitive, creative, and eager to embrace change, regardless of the risks, McCarthy's lesson plans may be somewhat of a disappointment. The phases of motivation, experience, knowledge, application, and feedback are not necessarily unique to McCarthy's model. These phases have been implemented by dedicated and professional educators for years, especially in the elementary grades. Modifications of McCarthy's model can even be found in the current college/university classroom where students are provided with a variety of choices and incentives in terms of papers or projects, practica or presentation, group work or lectures, take-home exam or alternative evaluative procedures. Essentially the changes that are demanded consist of an implementation of methods that are already being used by the more competent teachers at all levels of education.

McCarthy's plea to teach the whole brain – the whole child – is an emphasis that is being heard increasingly in the nation's classrooms. It

consists of educational strategies that are continuous with the innovations in the past decades: the learning centres, the integrated day, math their way. Such teaching involves a dedication to continuing professional development, a willingness to admit that present methods do not always succeed, and a sensitivity to students' needs and uniqueness.

Learning style advocates have formulated the differences that exist among students. Learning styles becomes a bandwagon in education only to the extent that we would think it to be the cure for all educational ills. Its greatest value lies in the promotion of sensitivity and variety, the wish to go the "extra mile" with the student who remains baffled by subject demands, the recognition of different ways of being. In the context of all educational innovations and emphases, learning style acceptance allows each one of us to declare that "it's okay to be different but I can learn with you and you may learn from me and together we will work with others." The changes that are demanded by learning-style theorists of the system, the content, and the teacher are essentially no more than changes of increasing competence and dedication to being "good educators."

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