A THEORY AND FRAMEWORK FOR AN INTERNATIONAL CURRICULUM BASED ON

THE WHOLISTIC EDUCATIONAL SYSTEM

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CONTENTS

page

INTRODUCTORY REMARKS . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

THE WHOLISTIC EDUCATIONAL SYSTEM (WES) . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2

Basic Principles and Components . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2

The Inclusion of Religion, Philosophy, and Science . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2

The Term "System of Education" . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4

THE HISTORICAL ROOTS OF WES . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4

RELIGIOUS/ SPIRITUAL NOTIONS UNDERGIRDING WES . . . . . . . . . . . . . . . . . . . . . . 5

PRINCIPLES OF PROCESS PHILOSOPHY WHICH UNDERPIN WES . . . . . . . . . . . . . . . 6

SCIENTIFIC TENETS WHICH GUIDE THE DEVELOPMENT OF WES . . . . . . . . . . . . . . . 7

THE THEORY OF DEVELOPMENT AND LEARNING . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 8

THE THEORY OF CURRICULUM . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 20

THE THEORIES OF TEACHING, ADMINISTRATION

AND INSTITUTION-COMMUNITY RELATIONS, AND EVALUATION . . . . . . . . . . . 25

PRACTICAL APPLICATIONS OF WES . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 25

PROGRAMS COMPATIBLE WITH WES . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 26

THE FUTURE OF WES . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 27

CONCLUSION . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 27

FIGURES

Figure 1: Model of the Wholistic Educational System . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3

Figure 2: WES--Curriculum Summary Chart . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9

Figure 3: WES--Supplement to the Curriculum Summary Chart . . . . . . . . . . . . . . . . . . . . . . . . 10

Figure 4: Hierarchical Ordering of the Environments . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 13

Figure 5: Hierarchical Ordering of the Curricular Strands . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 22

A THEORY AND FRAMEWORK FOR AN INTERNATIONAL CURRICULUM BASED ON

THE WHOLISTIC EDUCATIONAL SYSTEM

INTRODUCTORY REMARKS

I would like to express my commendations to those educationists and scholars of the Curriculum Theory Project at Louisiana State University for initiating The Internationalization of Curriculum Studies. Such a vast undertaking was first proposed, to my knowledge, by 'Abdu'l-Bahá[[1]](#endnote-1)a (1982), in a talk given in Philadelphia during his visit to the United States in 1912: "Education is essential, and all standards of training and teaching throughout the world of mankind should be brought into conformity and agreement; a universal curriculum should be established, and the basis of ethics be the same" (p. 182). The understanding that such an enterprise would engage the efforts, knowledge, and talents of several generations was foreseen in 1939 by Shoghi Rabbani[[2]](#endnote-2)b (1987, pp. 55-56) and has been noted more recently by Dr. William E. Doll, Jr. in his volume *A Post-Modern Perspective on Curriculum* where he states: "As we worked for centuries developing the modernist paradigm, so will we need (at least) generations to develop a post-modern paradigm" (1994, p. 148).

The concept of an international curriculum assumes a fundamental principal: the organic oneness of humankind with its implications that no race or nation is inherently superior to another; that human health, development and learning have the same fundamental characteristics regardless of geographic location; and that all peoples would benefit from the united efforts of educators, researchers, and scholars throughout the world to formulate a universal curriculum (The Universal House of Justice, 1985).

Another fundamental concept which should guide such a vast and complex project is "unity in diversity." This principle acknowledges that there are certain categories of human potentiality and certain developmental universals which are possessed by all people alike while, at the same time, acknowledging the highly unique manifestation of these capacities and talents in each culture and in each individual. This principle also implies that there are basic, fundamental bodies of knowledge which are so universal in importance that they deserve to be acquired by everyone while simultaneously encouraging the acquisition and production of a wide diversity of "local knowledge" and culture (Geertz, 1983).

I would also like to commend the conference organizers for combining the curricular theme with that of educational philosophy. The object and user of any curriculum is ultimately the human child, student, or adult learner. Hence, it becomes necessary to understand the nature and purpose of human beings--a very philosophical endeavor. And, because human beings form an integral, embedded, inseparable part of creation, it becomes necessary to understand the nature of reality itself. Thus, very quickly, the work of curriculum development and the entire educational enterprise become intimately connected with such branches of philosophy as cosmology, metaphysics, ontology, and others (Jordan and Shepard, 1972).

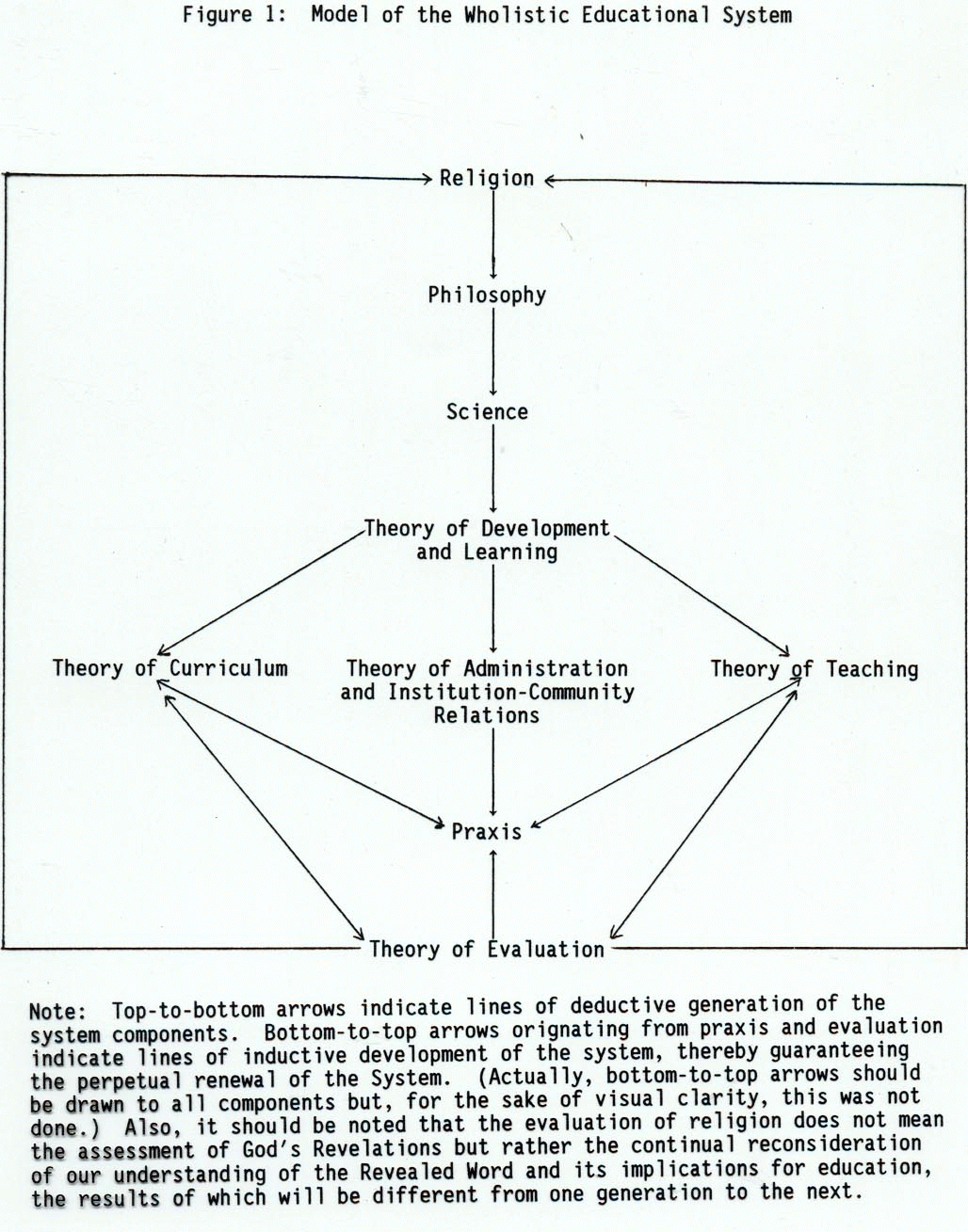
This paper presents an overview of a curriculum theory and framework which form part of The Wholistic Educational System (WES). The first part explains the background of WES, its basic principles and components, and its history and development. This is followed by an exposition of the religious, philosophical and scientific foundations of the System. The theory of development is then delineated along with the theory of curriculum which was generated from it. Finally, the theories of teaching, administration and institution-community relations, and evaluation are discussed briefly as well as the practical applications of the System, programs which are compatible with it, and the future of WES.

THE WHOLISTIC EDUCATIONAL SYSTEM

Basic Principles and Components:

The Wholistic Educational System (WES) is a comprehensive, systemic, research-based[[3]](#endnote-3)c approach to education which can be characterized as being religious in its inspiration[[4]](#footnote-1), organismic in its philosophic orientation, and scientific in its method. Drawing upon three corresponding bodies of knowledge and human experience--religion, philosophy, and science--a theory of development and learning was derived which posits the interdependence of the actualization of human potentiality and the acquisition of knowledge. From this theory three others were derived: a theory of curriculum, a theory of teaching, and a theory of administration and institution-community relations. From these three theories practical applications were generated. A fifth theory--the theory of evaluation completes the educational system and assures that inductive knowledge gained from praxis and research will continually renew all of the constituent components of the System. (Figure 1 shows the relationship of these various aspects of the Wholistic Educational System.)

(Insert Figure 1 approximately here)



The Inclusion of Religion, Philosophy, and Science:

The philosophical foundations of WES draw most heavily from the work of Alfred North Whitehead (1925/1967, 1929/1967, 1929/1978, 1933/1969, 1938/1968) and Abraham Maslow, and, to a lesser extent, from Henri Bergson and Charles Pierce[[5]](#footnote-2). However, in the formulation of its theory of curriculum, WES is also informed by two other branches of knowledge--religion and science. Religion, like philosophy, has always helped to answer the fundamental questions which are beyond the scope of science: What is the essence of reality? What is the purpose of the universe? What is the destiny of human life on this planet? What are the spiritual truths which can illumine our understanding of human nature? and others.[[6]](#footnote-3) Historically religion was the mother of philosophy. And philosophy, in turn, was the mother of science, mathematics, and other branches of knowledge. Because educational curricula and teaching methods are strengthened by a deeper understanding of how human beings develop and learn, WES has formulated a corresponding theory which draws upon the sciences of human development and learning which, in turn, are further informed by all branches of science which directly or even indirectly impact human health and well-being, e.g., genetics, neurobiology (especially brain research), agriculture, nutrition, medicine, ecology, social-economic development, and many others.

The Term "System of Education":

The Wholistic Educational System views education as being an enterprise which integrates religion, philosophy, science, educational theory and practice. The term "system of education," as used by Shoghi Rabbani (1939), was chosen in lieu of "science of education" used by Jean Piaget (McKenna, 1976), "model of education" employed by Jordan and Streets (1973a), and "philosophy or theory of education" as recommended to the author by Robert Brumbaugh (1989). A "system" can be defined as "a complete exhibition of essential principles or facts, arranged in a rational dependence or connection; . . . a complex of ideas, principles, etc., forming a coherent whole."[[7]](#endnote-4)d Seeing education as a complex system also allows it to be informed by general systems theory (Laszlo, 1987).

THE HISTORICAL ROOTS OF WES

The Wholistic Educational System represents the author's attempt to recast, elaborate and refine the Anisa Model of Education which was developed by the late Rhodes Scholar, Dr. Daniel C. Jordan, his close colleague Dr. Donald T. Street and their associates during the 1960's as a personal endeavor and during the 1970's as the principal purpose of The Center for the Study of Human Potential at the School of Education, University of Massachusetts, Amherst under the auspices of Dean Dwight Allen. During the late 1970's the Model moved to California where it became the foundation for the School of Education at National University, San Diego. Until 1982 Dr. Streets served as Associate Dean of Graduate Studies and professor of several education courses. Dr. Jordan served as Dean of the School of Education until his untimely death in 1982 which resulted in the Anisa program being dismantled as a formal endeavor. Since that time a group of former founders, colleagues, and students have continued to develop the Anisa Model at various locations throughout the world and to apply it in their particular fields.[[8]](#footnote-4)

RELIGIOUS/ SPIRITUAL NOTIONS UNDERGIRDING WES

The following are some of the principle religious/ spiritual notions which undergird the Wholistic Educational System and which are ever present in the mind of a WES educator[[9]](#endnote-5)e:

- There is one Creator Who is referred to by various names and titles.

-Humankind is one, organically-interrelated race.

- The manifold purposes of human life include:

- to know, love, and worship the Creator through interacting with His/Her revealed Word and with His/Her creation;

- to become the image of God by acquiring His/Her attributes and virtues;

- to build the Kingdom of the Father by carrying forward an ever-advancing civilization and by building a new world order;

- to prepare one's soul for life beyond death.

-The Creator renews His eternal Faith approximately every thousand years by sending an Intermediary Who reveals laws and establishes a new religion, which, in turn, stimulates the flowering of civilization (Hatcher and Martin, 1984).

In order to create a logically consistent link between religion and WES's process philosophy (summarized below), the statements above need to be viewed from a process perspective which views the nature of reality as the continual actualization of potentiality into actuality (Wheatley, 1994). Reflecting the image of God in one's life, i.e., manifesting His/Her attributes, is a God-given, personal potentiality which is actualized through such processes as the acquisition of knowledge, love, prayer, meditation, and service to humankind. The Kingdom of the Father on earth is a social potentiality. When it is actualized through collective processes and enterprises, divine attributes such as justice, unity, and peace will be reflected in human affairs at all levels of society.

PRINCIPLES OF PROCESS PHILOSOPHY WHICH UNDERPIN WES

The following principles of process philosophy underpin the Wholistic Educational System[[10]](#footnote-5):

-Reality has two basic forms: non-actual and actual. Non-actual forms include potentialities; ideas; theories; knowledge; love; aims; ideals; the human soul, mind, and spirit; and the deity. Actual forms consist of observable, detectable, and often measurable entities and systems such as those found in the mineral, technological, vegetable, animal, and human (body) realms. The process of reality consists of the manifestation of non-actual entities as actual entities. Hence, when something comes into actual existence, it can be considered to have first existed as a non-actual, potential reality.) Reality is viewed as an unbroken chain linking the non-actual, spiritual realm with the actual, physical realm.

-The essential harmony of religion and science is upheld. Religion has traditionally focused on non-actual reality; science on actual reality. Organismic philosophy upholds the oneness of reality and one of its roles is to coordinate the bodies of religious and scientific knowledge thereby formulating a coherent scheme of general ideas capable of interpreting all aspects of human experience.

-The nature of human beings is manifold and consists of material, social, psychological, and spiritual aspects.

-Human reality can be explained in terms of the process of becoming, i.e., the actualization of potentiality. This same process is the essence of creativity, the universal of universals, in the broadest sense of the term.

-The process of becoming of any particular person can best be understood in the light of the general ontological principle of relativity, i.e., that human beings are related to all other entities in the universe which provide the hierarchically organized context of the person's process of becoming.

-The principle of hierarchical structuring is the primary expression of order and beauty in the universe.

-The basic order of the material universe consists of interrelated yet distinguishable ontological levels which are hierarchically-arranged--mineral, botanical, zoological, and human--the latter being at the apex of creation.

-Order is dynamic in nature, i.e., novelty perpetually emerges from new integration of prior entities.

-Human beings are capable of escaping the limitations of mere materiality by virtue of their ability to direct the process of their own becoming--patterning the use of energy available to them--by consciously entertaining the infinite range of possibilities (novel potentialities) open to them.

-The process of becoming is identified with an intrinsic pressure to know and to love which impels conscious speculation about, and attraction to the unknown but knowable aspects of entities (in themselves forms of potentialities), and the ultimately unknowable aspects of entities including the Transcendent, the Ultimate Reality, the Unknowable Essence which many refer to as God (the sum of all potentiality) and human beings' relationship to Him/ Her.

-Human spirituality includes the conscious capacity (1) to formulate, respond to, or interact with non-actual realities (ideals, aims, purposes, theories, souls, Prophets, the deity) as a consequence of speculation and attraction, (2) to accept them (e.g., ideals, theories, or one's concept of the deity) as substitutes for or manifestations of the known, unknown but knowable, and/or unknowable aspects of entities (including the transcendental aspects of life), and (3) to give them symbolic expression which helps to guide or give direction to the translation of potentiality into actuality, thereby facilitating their functioning as final cause.

-The realization of beauty is the teleology of the universe and the actualization of physio-oriented, socio-oriented, psycho-oriented, spirit-oriented, and Self-oriented potentiality in service of beauty is the highest expression of that teleology.

SCIENTIFIC TENETS WHICH GUIDE THE DEVELOPMENT OF WES

The Wholistic Educational System is scientific in its method and its foundation (Whitehead, 1925/1926, Kuhn, 1970, Bohm, 1987). It upholds the following science-related tenets:

-Creation being hierarchically organized and humankind being at the apex of created things (with the possible exception of the Prophets during their lifetime on earth), human reality can be viewed as a composite of all lower ontological levels; containing all of the powers of the material, botanical, and zoological realms[[11]](#footnote-6); while also manifesting human and divine attributes which are not possessed by beings at the lower levels. Hence, humankind can be viewed as the "book of creation." The universe contains human reality and the human reality contains the universe.

-Because a human being is the "book of creation," all of the sciences--physical, social, psychological and spiritual[[12]](#footnote-7)--effect directly or indirectly human life and, consequently, the educational process.

-All of the sciences (e.g., anthropology, biology, organic chemistry, genealogy, sociology, genetics, and psychology) confirm the principle of the essential, organic oneness of the human race. This supports the possibility of creating a universal system of education which will take into account both the unity and the diversity of humankind.

-All of these same sciences confirm the principle of the basic equality of men and women as regards intellectual capacity and the potentiality of women, when given equal educational and vocational opportunities, to make significant contributions in virtually all fields of human endeavor.

-The role of science in the advance of civilization is threefold:

1) the translation of potential knowledge into actualized knowledge, i.e., the production of knowledge, via various modes of knowing such as: intuition, inspiration, prayer, meditation, experience, logic, scholarship, and systematic research;

2) the organization of knowledge into coherent, logically consistent systems;

3) the application of knowledge for the highest good of all things everywhere.

Because the WESian theory of curriculum is derived from its theory of development and learning the basic principles of the latter have been included in this presentation. However, due to the intimate connection between development, learning, and curriculum, for the reader's benefit, the basic and supplementary curriculum charts precede the exposition of the principles of the theory of development and learning (See Figures 2 and 3).

THE THEORY OF DEVELOPMENT AND LEARNING

The theory of development and learning of the Wholistic Educational System has drawn on the work of Jordan and Kalinowski (1973), Gardner (1983), Piaget (1972) and others such as Goleman (1995), Werner, Erikson, Gesell, Epstein, Baldwin, Hunt, Havinghurst, Mussen and Langer, Harris, Buhler, Bonner, and Scott. As it stands at this point in time, the theory of development and learning of WES upholds the following principles. (See Figures 2 and 3.)

(Place Figure 2 -- WES--Curriculum Summary Chart -- approximately here.)

(Place Figure 3 – WES: Supplement to the Curriculum Summary Chart – approximately here.)

- Development means the translation of potentiality into actuality the process of which can be equated with creativity in its broadest sense.

-Interaction with the environment is the means by which development is sustained.

-There are five basic categories or aspects of the environment[[13]](#footnote-8):

1) physical: mineral, botanical, zoological, and human body[ies];

2) social: ranging from partners to various groups to the entire human race[[14]](#footnote-9);

3) psychological: feelings, questions, ideas, theories, aims, values, ideals, symbols, memories, etc.[[15]](#footnote-10);

4) spiritual: souls, Prophets, the Holy Spirit, and the deity[[16]](#footnote-11);

5) the Self as the microcosmic reflection of the four categories of environment specified above and the most constant part of the environment experienced: physical self, social self, psychological self, and spiritual self.

-The five aspects of the environment are organized hierarchically. (See Figure 4.)

-All environments contain entities which have aspects that are known, unknown but knowable, and ultimately unknowable.

-The perpetual introduction of some novelty[[17]](#footnote-12) into the environment is a primary means of creating disequilibrium (or disparity) between a person's developmental level and experience thereby compelling new patterns of interaction which in turn facilitates the actualization of potentialities.

-Environments and interactions are categorized and evaluated in terms of their power to facilitate the maintenance of biological integrity (that is, safety must be paramount), the actualization of all categories of potentiality, the acquisition of knowledge, competence in the corresponding symbol systems, the formation of character, and the enhancement of higher-order competencies, especially the development of learning/ self-teaching competence.

-Although the number of human potentialities is infinite and the finitude of their actualization is impossible to establish, they can be categorized into domains each of which can be analyzed and improved in relative isolation to the others.

-There are five broad categories or domains of potentiality:

1) physio-oriented processes (oriented toward interacting with the material realm of the body and the outer physical environment),

2) socio-oriented processes (oriented toward interacting with social entities),

3) psycho-oriented processes (oriented toward interacting with inner, psychic entities),

4) spirit-oriented processes (oriented toward interacting with spiritual entities), and

5) Self-oriented processes.

(Place Figure 4 -- Hierarchical Ordering of the Environments – approximately here.)

- There are five sub-categories of physio-oriented potentiality: biological (growth, maturation, and maintenance), perceptual, psychomotor, spatial/temporal, and musical.

-Proper nutrition is the essential element in the development of biological potentialities. Other important elements include: hygiene (physical health, freedom from illness, cleanliness of physical environment--clean air, clean water, clean food, etc.), exercise(fitness of muscular, cardiovascular, and respiratory systems), leisure (as a means of re-energizing the system for further service to God and His creation), and rest (especially sleep, but also mind-control and other techniques for revitalization).

-There are five sub-categories of socio-oriented potentiality: communication, imitation, identification, reciprocity and altruism.

-Communication--body language, social gestures such as gift-giving, listening, and speaking (lower-order symbol systems)--is the key process in the release of socio-oriented potentialities.

-There are four sub-categories of psycho-oriented potentiality: affective, cognitive, volitional, and cross-domain processes such as memory and learning.

-Learning is the key, cross-domain, psychological process involved in the release of potentialities;

-There are three sub-categories of spirit-oriented potentiality: the acquisition of virtues, the activation and application of faith[[18]](#footnote-13), and worship[[19]](#footnote-14).

-Worship is the primary process for the release of spiritual potentialities. Sub-processes include: prayer, meditation, service and work (as devotion to God via helping others), group worship (the traditional idea of worship), fasting, tithing, and scripture study.

(Note: All of the above potentialities which are actualized as processes [or powers] are brain-connected. Hence, the argument can be made that they are all psychological processes. In order to accommodate this truth while maintaining a pentamerous categorization of processes for practical purposes, the term "-oriented" is used to indicate the primary, though not exclusive, realm of utilization of the process in the person's quest for effectance.)

-There are eight sub-categories of processes oriented to the Self: personal health care, self-percept, body awareness (especially in space), self as companion, self-esteem, self-concept, self-determination, and respect of the divine nature of the Self.

-Supplementing the five strands of human development are five corresponding sets of causality underlying development (See Figure 3):

1) material and efficient causation, especially, but not exclusively, in relation to the physical environment;

2) reciprocal causation, especially in relation to the social environment;

3) formal and final causation, especially in relation to the psychological environment;

4) spiritual causation [inspiration from other souls, the Prophets and the Holy Spirit] and ultimate or primal causation, especially in relation to the spiritual environment[[20]](#footnote-15);

5) all of these as they apply to self-causation in relation to the environment of the Self.

-Also supplementing the five strands of human development are five sets of regulatory systems which influence and/or govern the becoming of the person (See Figure 3):

1) physical laws in relation to the physical environment;

2) social laws in relation to the social environment:

3) principles of aesthetics, psychological laws, principles of logic, andphilosophical axioms in relation to the psychological environment;

4) spiritual laws in relation to the spiritual environment;

5) all of these as they apply to self-regulation and self-discipline in relation to the environment of the Self.

-There are five value/virtue sub-systems:

1) material values/virtues[[21]](#footnote-16) in relation to the physical environment;

2) social values/virtues in relation to the social environment;

3) aesthetic and philosophical values in relation to the psychological environment;

4) spiritual and religious values in relation to the spiritual environment;

5) all of the above combined into self-identity or character in relation to the environment of the Self;

-Self identity (character development) emerges in terms of value/virtue formation. Values are defined as relatively enduring structurings of actualized potentialities (patterned uses of energy available to the organism), and virtues are defined as values the formation of which is guided by universal ideals which seek the highest good for all things everywhere.

-The structural and functional reality of self identify (the Self) is comprised of the four value/virtue systems combined into an integrated totality on which depends the personal effectance of the self--"self-competence"--analogously defined as the combination of the higher-order competencies.

-Because of the hierarchical context of development, personality formation cannot be fully understood independently of the culture as transmitted by parents, family, and society.

-Information about the environments, held as beliefs, whether error-free or error-ridden, affects the structuring of values and virtues.

-Psychological processes such as feelings, perceptions, and intentions affect attitudes which are fused with beliefs in the structuring of values and virtues.

-In correspondence with the five sets of values/ virtues there are five, supplementary sets of ideals which lure their development forward:

1) technological effectance (White, 1959)[[22]](#footnote-17), ecological balance, sustainable development, and high quality survival in relation to the physical environment;

2) social effectance, justice, cooperation, service to humanity, world unity, universal peace, and happiness in relation to the social environment;

3) psychological effectance, unity, beauty, and truth in relation to the psychological environment;

4) spiritual effectance, purity, love of God, knowledge of God, Kingdoms of God on earth and heaven in relation to the spiritual environment;

5) all of these combined into self-effectance and the Self Ideal in relation to the environment of the Self;

-Supplementing the five sets of ideals are five corresponding types of role models, heroes/ heroines, and leaders who exemplify these ideals and, thereby, function as "embodied lures" (See Figure 3):

1) for physical excellence: sports heroes/heroines, models, dancers, singers, performers, actors, models of good nutrition, etc.;

for technological excellence: ecologists, scientists, inventors, explorers, builders, designers, etc., all in relation to the physical environment;

2) for moral excellence: elders, charismatic leaders, social reformers, great law makers, founding fathers of nations, institutions which serve humankind, etc., all in relation to the social environment;

3) for speculative and creative competence: theorists, philosophers, artists, musicians, poets, song-writers, etc., all in relation to the psychological environment;

4) for fiducial and spiritual excellence: wise men/ women, religious martyrs and heroes/ heroines, saints, spiritual and religious leaders, minor prophets of God, major Prophets of God, etc., all in relation to the spiritual environment;

5) for self-excellence: any of the attributes of the former as they are integrated into "the Self at its best during peak performances" which can be recalled at will for self-inspiration and motivation, these in relation to the environment of the Self).

-There are five sets of analogous higher-order competencies:

1) technological competence in relation to the physical environment (includes the applied fields of mining, technology, agriculture, animal husbandry, medicine, etc.);

2) moral competence in relation to the social environment (includes the applied fields of law, social work, education, business and organization administration, etc.);

3) creative and speculative competence in relation to the psychological environment (includes the applied fields of the arts, psychiatry, applied scholarship and professional consulting, think tanks, etc.);

4) fiducial and spiritual competence in relation to the spiritual environment (includes applied fields of service in religious organizations, theological scholarship, etc.;

5) all of these as they apply to self-competence (which is sustained by learning competence and self-actualization) in relation to the environment of the Self (includes the applied field of self-help practices).

-Learning how to learn (learning competence) is the ultimate source of effectance--the ability to bring about intended effects in relation to any targeted entity, whether it be physical, social, psychological, spiritual, or personal in nature.

-Learning competence means the conscious ability to differentiate aspects of experience, integrate them into novel patterns, and generalize them to other situations. Differentiation, integration and generalization constitute the trio of interrelated processes that defines a developmental unit of change--a stage, (sequences of stages being the primary means by which increasing complexity of function and structure is built up and integrated through hierarchical organization).[[23]](#footnote-18)

-Early experience is important in the shaping of subsequent developmental phenomena. The concepts of critical or sensitive periods, stages and sequences within each category or domain of potentiality have heuristic value.

-Developmental universals provide a framework for the planning and implementation of educational programs cross culturally provided that cultural and personal uniquenesses are accounted for and encouraged.

The WESian theory of development and learning also provides a general scheme for understanding the nature of pathology and its etiology, sets forth the conditions for the prevention of mental illness, character disorders, delinquency, and criminality, and is generative of testable propositions concerning therapy and rehabilitation.

As an extension of the brief statements above regarding learning and learning competence, the following are more specific operational, systemic definitions[[24]](#footnote-19):

Learning: the differentiation, integration and generalization of experience.

Differentiation: the ability to break down experience, whether internal or external, into separate, contrastable elements.

Integration: the ability to combine those elements in a new way thereby providing new information, new feelings, new skills, and new perceptions which may or may not become expressed immediately in some form of overt behavior.

Generalization: the ability to utilize that recombination in other situations.

Learning Competence: the conscious ability to differentiate experience by breaking it down into contrastable elements, integrate the elements in novel ways, and generalize the novel integrations to new situations.

Experience: interaction with the environment.

Interaction: an exchange of "energy" (physical, social, psychological, or spiritual) between two or more entities.

Environment: all entities in the universe with which humans interact either individually or in various combinations. The entities have been categorized as being physical, social, psychological, or spiritual in nature including the Self which is a composite of all of these entities.

Objects of knowledge: any aspect of the environment which has been selected for learning.

Learning competence (an expanded definition): Learning competence means the ability to be consciously aware of:

1) having a hope or fear-related feeling towards an internal or external experience[[25]](#footnote-20);

2) attending to the experience;

3) differentiating the experience of the selected object of knowledge into its separate, contrastable elements;

4) further differentiating that experience from the learner and from past experiences of other similar and dissimilar objects of knowledge;

5) integrating the component elements of the experience of the object of knowledge in novel ways;

6) further integrating that experience with the immanence of the learner, i.e., past experiences of other similar and dissimilar objects of knowledge, and with the transcendence of the learner, i.e., present interests and future aspirations;

(Note: The four sub-processes #3-6 are not sequential; they interpenetrate one another.)

7) thereby producing new experiences, knowledge, values, and competencies consisting of new movements, new perceptions, new feelings and ways of dealing with feelings, new thoughts and ways of thinking, new intentions, and new information which may or may not become expressed immediately in some form of overt behavior;

8) generalizing the utilization of these novel integrations to other similar and increasingly dissimilar situations;

9) and, over time, becoming increasingly conscious of and in control of the entire process.

This elaboration of learning competence is an attempt to clarify the nature of "experience" as related to:

1) elements which compose the object of knowledge ("the journey within" the object) and

2) entities "exterior" to the object of knowledge ("the journey without") which include:

a) the learner (the connections between the object of knowledge and the learner's immanence and transcendence) and

b) all other entities which can be compared to or contrasted with the object of knowledge.

This results in the clarification that there are two basic levels of differentiation and two levels of integration. Generalization is viewed as a continuum of situations which range from similar to dissimilar in relation to the learning experience.[[26]](#footnote-21)

THE THEORY OF CURRICULUM

The theory of curriculum of the Wholistic Educational System has drawn on the work of Jordan and Streets (1973b), Doll (1994), Oliver and Gershman (1989), Taba, McDonald, Goodlad, and Tyler. At the present time, the basic principles are as follows. (Refer to Figure 2.)

-Curriculum is defined in terms of educational goals as determined by society and the learner[[27]](#footnote-22) and what learners do (with or without the assistance of teachers) to achieve them;

-The over-arching goal of the curriculum (and the aim of education in general) is to enable the person, through a personalized approach which accommodates his/ her uniqueness, to consciously and continuously:

1) discover, actualize, expand, and refine, at an optimum rate and in constructive directions, his/ her potentialities and special, God-given talents which are physical, social, psychological, and/ or spiritual in nature;

2) structure these potentialities into a self-identity or character around universal ideals which seek the highest good for all things everywhere and which perpetually improve their well-being;

3) acquire and generate beneficial knowledge;

4) know and love the Creator and His/ Her creation;

5) actualize the potentiality of society (e.g., families, organizations, nations, and humankind as a whole;

6) carry forward an ever-advancing civilization toward ever-wider, ever-more-evolved circles of unity; and

7) prepare his/ her soul for the afterlife.

-There are six curricular strands or sets of objectives:

1) process,

2) content,

3) higher-order symbol systems,

4) values/ virtues and their related ideals,

5) higher-order competencies, and

6) the Self.

Just as the five environments are related hierarchically (Figure 4) so too are the six strands of the curriculum. Each higher strand builds upon, fuses, and subsumes the lower strands with the Self being the highest level, the embodiment of the sum total of all other curricular strands. (See Figure 5.)

-The main goals and sub-goals of all of the curricular strands are differentiated into process goals and content goals[[28]](#footnote-23)

1. The Process Curriculum:

-There are five categories of process goals:

1) development of physio-oriented potentialities;

2) development of socio-oriented potentialities;

3) development of psycho-oriented potentialities;

4) development of spirit-oriented potentialities;

5) all of these as applied to the Self in relation to itself.

2. The Content Curriculum:

-There are five categories of content goals analogous to the process goals:

1) theoretical physical and life sciences[[29]](#footnote-24):

a) physics, chemistry, geology, etc. for the mineral kingdom;

b) botany, biology, etc. for the botanical kingdom;

c) zoology, and other life sciences for the animal kingdom;

d) human anatomy, nutrition, health courses, etc. for the human body;

e) ecology as an integrative content area;

2) social sciences and the humanities: communications and information, human relations, sociology, human rights, history, literature, etc.;

3) psychological sciences and other psycho-oriented fields: psychology of personality, temperament, affect, character disorders, etc.; the humanities; the arts; philosophy; and others;

4) spiritual sciences (i.e., scientific research into spiritual phenomena), religion, theology, etc.;

5) science of the Self: vital knowledge and information regarding one's biological health, social health, psychological health, and spiritual health.

(Place Figure 5 -- Hierarchical Ordering of the Curricular Strands – approximately here.)

- The content curriculum at all levels and the logical thinking portion of the cognitive process curriculum give importance to the acquisition of a continuously deepening understanding of all forms of causality and regulatory systems governing the various aspects of the environment. (See theory of development and learning above.)

-Cognitive processes (especially logical and critical thinking) should be used as the means for reducing error in the knowledge (content) assimilated. And accumulated content should be applied to render cognitive processes more efficient.

-Content knowledge is viewed as consisting of hierarchically organized bodies of concepts, information, and facts.

3. The Higher-Order Symbol Systems Curriculum:

-There are five categories of higher-order symbol systems[[30]](#footnote-25) which help to mediate or facilitate interaction with the five basic environments, give direction to the structuring of the actualization of potentiality, and heighten consciousness of the entities for which the symbols stand:

1) in relation to the physical environment: mathematics, symbolic logic, coding systems for material entities and processes, etc.

2) in relation to the social environment: the above systems plus language(s), especially writing and reading, and literary elements;

3) in relation to the psychological environment: the above systems plus art forms, written music, psychological terminology (used exclusively by professionals in the field), and philosophical terminology (understood only by users of the particular philosophical system);

4) in relation to the spiritual environment: all of the above plus the symbolism of sacred literature;

5) in relation to the environment of the Self: all of the above applied to Self-symbolization: self-measurement; self-definition; self-dialogue; diary-writing; self-expression through the arts, etc.

4. The Curriculum of Values/ Virtues and Related Ideals:

-There are five categories of values/ virtues and related ideals:

1) Material values/ virtues and ideals;

2) Social values/ virtues and ideals;

3) Aesthetic values/ virtues and ideals;

Philosophical values/ virtues and ideals;

4) Spiritual and religious values/ virtues and ideals;

5) All of the above combined into Self-identify or character.

-Supplementing the value-virtues-ideals strand of the curriculum are five sets of role models, heroes/ heroines, and leaders who serve as exemplars and "embodied lures." (See theory of development and learning above.)

5. The Curriculum for Higher-Order Competencies:

- There are five categories of higher-order competencies:

1) Technological competence: applied biological and physical sciences--technology, agriculture, nutrition, sanitation, medicine, engineering, etc.;

2) Moral competence: applied social sciences: law, social work, education, business and organizational administration, etc.;

3) Creative competence: the arts and crafts;

Speculative competence: applied psychology, research and development, think tanks, etc.

4) Fiducial competence (knowing when to trust or distrust, how to activate and apply faith): applied fields--any position requiring a high degree of trustworthiness.

Spiritual competence (knowing how to interact with spiritual entities in order to achieve constructive aims): applied field--spiritual counseling and leadership.

5) All of the above applied to self-competence which is sustained by learning competence, self-teaching competence, and self-actualization: applied via self-help practices.

6. The Curriculum of the Self:

-The curriculum of the Self is based on the microcosm of the four main environments enfolded within the individual. Sub-strands include:

1) Self-related processes,

2) content information resulting in a science of the Self,

3) Self-symbolization in various forms,

4) Self identity or character with a corresponding Self-ideal, and

5) Self-competence. (See the relevant sections of the theory of development and learning above and refer to Figure 2.)[[31]](#footnote-26)

-Particular types of interactions are identified which a person must have with the different environments in order to achieve the process and content goals which result in an integrated Self[[32]](#footnote-27) characterized by values/ virtues[[33]](#footnote-28) (actualized potentialities of a mid-range order) and related higher-order competencies[[34]](#footnote-29) that not only guarantee the continual release of potentialities but also improve the quality of survival.

THE THEORIES OF TEACHING, ADMINISTRATION

AND INSTITUTION-COMMUNITY RELATIONS, AND EVALUATION

It is beyond the scope of this paper to present all of the principles included in the theories of teaching, administration and institution-community relations, and evaluation.[[35]](#footnote-30) Suffice it to say that the theory of teaching has drawn on the work of Bruner, Phenix, Broudy, B. Othanel Smith, Woodruff, Gage, Glaser, and Moore (1991) and it is derived from and is coherent with the theory of development and learning. The theory defines teaching as the arranging of environments and the guiding of the learner's interaction with them to attain the goals of the curriculum.

The theory of administration has been influenced by the work of Barnard, Follett, Argyris, and Hershey and Blanchard. It places administrators in the role of "ministers" whose services include the management of the school's accumulated resources (as an expression of immanence) and leading the actualization of the potentiality of students, teachers, parents, and the school as a whole (as an expression of transcendence). Consultation is utilized as the principle decision-making process which seeks to draw input from those persons with expertise in the topic at hand and from those persons who will be most affected by the decision. The theory also specifies the need for administrators to lead the process of working with parents to lessen the disparity between the student's experience at school and the home environment.

The theory of evaluation was developed from the work of Cronbach, Hambelton, and Swaminathan. The role of evaluation in relation to the curriculum and teaching is to relate the degree of goal achievement to particular interactions prescribed, encouraged or permitted. The theory of evaluation emphasizes the importance of not only assessing the students' attainment of both the process and content goals of the curriculum but also the assessment of each component of WES, the related programs which support the components, and the system as a whole.

PRACTICAL APPLICATIONS OF WES

The predecessor of WES--the Anisa Model of Education--was successfully fielded at several sites in New England during the 1970s (Suffield, Connecticut; Hamden, Maine; and Falls River, Massachusetts to name a few) and was validated as an early childhood program by the U.S. State Department of Education in 1974. During the 1980s and 1990s components of the Model were also implemented at the Laboratory School of the School of Education, National University, San Diego; at the Kapothakaw Education Centre in Morinville, Alberta, Canada; at the Four Worlds Development Project, Faculty of Education, Lethbridge University, Alberta, Canada; at the Mayan School in Tegucigalpa, Honduras; at the International School of San Pedro Sula, Honduras; and at the Marymount School in Barranquilla, Colombia. At present, to the author's knowledge, there are no educational institutions which are explicitly using the Anisa Model as a framework for planning.

PROGRAMS COMPATIBLE WITH WES

There are several programs for curriculum, teaching, and evaluation which are compatible with the Wholistic Educational System. Because the system is an inclusive, open one, experience has shown that as WES interacts with educational programs developed by those who are not cognizant of the System, that, on the one hand, the System itself is influenced by the program, and, on the other, the program must be "filtered" and adapted in order to be in harmony with the System. That is, particular programs and methodologies have each informed WES and each, in turn, has been transformed by WES. A few examples of lesser known, but compatible and promising programs and methodologies follow.

The *developmental activities program* (*dap*) is a Piagetian, research-based, integrated, individualized, student-constructed math/science program for preschool through sixth grade (D.G. Phillips, 1994, 1996; D.R. Phillips, 1998). According to co-founder Dr. Dale R. Phillips, "Dap is the best-kept secret in education."[[36]](#endnote-6)f It is currently being used by some 110 school systems in 10 states and at the Marymount School in Barranquilla, Colombia.[[37]](#footnote-31)

The Dunn and Dunn Learning Styles Model is an individualized program which enhances a person's ability to concentrate on, process, and retain new and difficult information (Dunn and Dunn, 1992, 1993, 1994, 1995). It has been successfully fielded internationally and at all grade levels including higher education.[[38]](#footnote-32)

The Foxfire program (Wigginton, 1985) is an individualized, high school English program which integrates into the school program student periodical publication (usually and extracurricular activity for a small group of students). It is a superb example of how multiple educational objectives can be attained through a real-life, integrative experience.

Various intriguing programs have been developed from Howard Gardner's theory of multiple intelligences. (See the September 1997 issue of Educational Leadership dedicated to this topic and Gardner's (1993) *Multiple Intelligences: The Theory in Practice* for examples.

*The Learner-Centered Classroom and School* (McCombs and Whisler, 1997) offers a wide range of very compatible strategies and methodologies for instruction and assessment. For example, WES's curriculum framework lends itself well to a theme-based curriculum because any topic can be viewed from the perspective of any of the five environments and, via the holistic study of the topic, any of the six strands of the curriculum can be developed. Whitehead (1929/1967, p. 2) himself seemed to call for such a thematic approach when he stated:

The result of teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illumined with any spark of vitality. Let the main ideas which are introduced into a child's education be few and important, and let them be thrown into every combination possible.

In the area of evaluation there is a movement for more authentic and performance-based assessment which is very much in tune with WES's process approach to education. The ideas of Vita Perrone, et. al. (1991), for example, are very compatible with the System.

THE FUTURE OF WES

What is needed for the development of the Wholistic Educational System, and any other similar enterprise aimed at creating an international curriculum, is a research program; a teacher training program; and laboratory, demonstration, and pilot schools based on WES and compatible programs. To my knowledge, very few if any of the above-mentioned, compatible, curricular programs are standard fare of teacher training programs in U.S. universities. In the meantime the individuals and groups committed to developing and applying Anisa/WES-based principles can take advantage of the internet to facilitate communication. As technology advances and becomes more affordable, it may be possible to create a "virtual university" dedicated to this project.

CONCLUSION

This paper has presented the religious, philosophical, scientific, and theoretical foundations of the Wholistic Educational System with an emphasis on the theory of curriculum and how it was generated. Unfortunately, what I have not been able to do is to present an example of a curricular unit based on this theory. Nor have I been able to convey the sheer excitement of learners when such a system (even just a few components of it) are implemented. After having received three years of initial classroom training in the Anisa Model, I felt that what Professor Daniel C. Jordan and his colleagues (all those upon whose shoulders he stood, those who worked closely with him, and those students who continued to labor after his passing) had given educators was an exquisite grand piano, but even though I could sense the vast potential of the instrument, I felt that I had only learned to pound out the notes of "Twinkle, Twinkle Little Star." It will, no doubt, take a future generation to perform the concertos which such a system is capable of producing.

ENDNOTES

1. a. One of the three Central Figures of the Bahá'í Faith. [↑](#endnote-ref-1)
2. b. The appointed expounder of the writings of the Central Figures of the Bahá'í Faith. [↑](#endnote-ref-2)
3. c. Those who contributed to the Anisa/WES research base primarily at the University of Massachusetts include:

   Dr. Linda Blane: psychomotor, perceptual, cognitive, and affective areas;

   Dr. Donald Streets: perception, math, administration, theories of curriculum and teaching, staff development, and development of the Anisa system as a whole;

   Dr. Pattabi Raman: nutrition, cognition, volition, administration;

   Dr. Magdalene Carney: learning competence, affective development, reading, educational technology, teaching theory, and teacher preparation;

   Dr. Torcy Wiley: classroom adaptation and teacher preparation;

   Dr. Raymond Shepard: philosophical and theoretical foundations;

   Dr. Lola Washburn: psychomotor, perceptual, and affective development;

   Dr. Michael Kalinowski: critical periods and development;

   Dr. Stephen Waite: affective growth, learning competence, and pre-numerical cognition;

   Drs. Patrick & Nancy Conway: nutrition, volitional competence, affective growth, and philosophical aspects;

   Dr. Susan Stengel: nutrition, moral and affective development, effects of modeling on cooperation;

   Dr. Wallace Carter: affective and moral development and the development of trust;

   Dr. Walter Leopold: creativity;

   Dr. Loismay Abeles: language acquisition;

   Dr. Mildred Lepard: language acquisition;

   Dr. Penelope Walker: theory of administration;

   Dr. Geff Marks: language acquisition, symbolization, and learning competence;

   Dr. Steven Boal: language, affective, moral and spiritual growth;

   Dr. Joel Levine: development of self-image and evaluation methods;

   Dr. Robert Blodget: theory of teaching, teacher preparation and classroom management;

   Dr. Patrick Conway: volition and perceptual competence;

   Dr. Leelavathee McCullough: science curriculum;

   Dr. Lawrence McCullough: educational program development;

   Dr. Peter Cotton: environmental design;

   Dr. Baruch: science curriculum;

   Dr. Elizabeth Bowen: psychomotor, nutrition, and parent and teacher education;

   Dr. Jean MacCormack: roletaking, moral and social development, and parent education;

   Dr. Nancy Rambusch (founder of the American Montessori Society): change agentry and teacher training;

   Dr. Richard Lincoln: Anisa implementation strategies;

   Dr. Catherine Nadon-Gabrion: aesthetic education;

   Dr. George Bondra: establishment of Anisa as a scientific paradigm for education, the theory of evaluation, school social work practice;

   Practitioners who contributed to the development of the Anisa Model include the many teachers at the various implementations sites in Connecticut, Massachusetts, Maine, Ohio, California, Canada, Honduras, and Colombia; especially Irene Hartley, ABD, who was the first teacher to field the model, the first to become a state-certified Anisa curriculum specialist, the first to become the directress of an Anisa laboratory/demonstration school at National University, California, and one of the staff members who continued to implement and develop the Model after the passing of its founder, Professor Daniel C. Jordan. [↑](#endnote-ref-3)
4. By disregarding the components of WES which refer to religion and spirituality, users who are atheistic or who are working in a country which separates church and state, thereby making it difficult to incorporate the spiritual aspect of reality into educational practices, will still find that this is a very powerful and useful system. Indeed, the Anisa Model, the precursor of WES, was first developed under such conditions. Fortunately, by working at a Catholic School for the last eleven years, the author has been able to be explicit about the spiritual foundation of the System and to develop it to some degree. [↑](#footnote-ref-1)
5. The author is currently engaged in a study of the work of John Dewey (with the guidance and help of fellow members of the Association for Process Philosophy of Education) with an eye to investigating how his work can inform and enrich the Wholistic Educational System. [↑](#footnote-ref-2)
6. WES has drawn upon all of the major religious traditions--the common heritage of the entire human race--such as Hinduism, Judaism, Taoism, Zoroastrianism, Native American Religious Traditions, Buddhism, Christianity, Islam, and the Bahá'í Faith. WES views the Great Revealed Religions as being hierarchically organized according to the chronological order of their appearance, each one embracing those which have come before while adding to their richness and complexity--like the cardinal nature of numbers in which each successive number contains the previous numbers while adding one to their value. Hence, the greatest source of inspiration for WES has been the Bahá'í Faith--the most recent of the Great Revealed Religions.

   The relevance of Bahá'í concepts for the post-modern age was attested to by Ervin Laszlo (1989), the foremost exponent of systems philosophy and member of the Club of Rome, who credited Bahá'u'lláh, the Prophet-Founder of the Bahá'í Faith, with having anticipated the current theory of non-linear evolutionary development in human history (p. 122). [↑](#footnote-ref-3)
7. d. Webster's Seventh New Collegiate Dictionary. [↑](#endnote-ref-4)
8. Interested readers can refer to the term "Anisa" to find bibliographic information in the ERIC and other research systems. Also, I can provide an Anisa bibliography. [↑](#footnote-ref-4)
9. e. It is worthy of note that the entire January, 1999 issue of *Educational Leadership* is dedicated to "The Spirit of Education" with articles discussing the role of spirituality in American education. [↑](#endnote-ref-5)
10. These principles regarding philosophy and the principles comprising each of the five theories are essentially the same as those of the Anisa Model. (See "A Summary Statement of the Anisa Model" in the ERIC system: Document Reproduction Service No. ED 110387.) However, various modifications of content (a few of which are substantial) and terminology have been made. For the theory of development I have made a point by point analysis and justification of each change in an unpublished paper titled "Theories of Development: A Survey." This same work needs to be done for the philosophy and the four other theories. [↑](#footnote-ref-5)
11. Because human bodies are composed of minerals, body tissue contains the atomic-level power of cohesion. Like the botanical realm humans have the powers of growth and reproduction. With animals we share the above powers plus the ability to move, the ability to assimilate nutrients by eating, and the five senses. [↑](#footnote-ref-6)
12. There is a growing trend for scientists to apply qualitative/ quantitative research methods to the study of religiosity/ spirituality especially in the area of health both as a protective and recovery factor (Kaufman, 1998-1998). [↑](#footnote-ref-7)
13. The "environment" is one, single, and seamless, that is, reality is one. However, for conceptual and practical purposes, its various aspects are often referred to in WES as: the physical environment, the social environment, the psychological environment, the spiritual environment, and the environment of the Self. In this sense, this aspect of WES represents a fundamental, ontological analysis of reality--the backbone of WES--around which all other major categories of the System have been organized. [↑](#footnote-ref-8)
14. In the Anisa Model the social environment was referred to as the human environment and the physical environment consisted only of the mineral, plant, and animal kingdoms. In WES "human body(ies)" has been added to the physical environment because humans are part of and have an impact on the physical environment. The term "social environment" was used to convey the idea that humans are innately gregarious in their nature, in their development, and in their learning. [↑](#footnote-ref-9)
15. These psychological entities have been differentiated from the spiritual environment for various reasons. These are a few:

    -Unlike the spiritual entities, they are the product of the human mind (or the Divine Mind) and are supervenient upon it, i.e., they have no independent reality.

    -However, they do have somewhat of a "life" of their own in the sense that they often have a beginning, grow, change, and sometimes fade out of existence. The entities in the spiritual environment are eternal.

    -Psychological entities such as evil ideas, vain imaginations, and mistaken theories can wreak unwanted and unnecessary havoc in the life of this world. The entities in the spiritual environment do not exercise a negative influence in the phenomenal world. (Of course, psychological entities also have the potential of bringing great good into the phenomenal world also!) [↑](#footnote-ref-10)
16. The Anisa Model utilized the environmental category of "the unknown" which, amongst others, contained spiritual entities. However, through classroom application it became clear to me that there are also unknowns in the physical, social, and psychological environments and that it is possible for aspects or attributes of spiritual entities to become intimately "known" to the learner. In WES the concept of the unknown has been elaborated in order to acknowledge that all entities, in relation to the knower, can have known aspects (even the deity), unknown but knowable aspects (via learning, experimentation, etc.), and ultimately unknowable aspects (humbly acknowledging that we can never directly know nor completely comprehend the essence of any entity). In WES the "environment of the unknown" has been replaced with the psychological and spiritual environments because specific entities could be identified. [↑](#footnote-ref-11)
17. Novelty can be physical, social, psychological, or spiritual in nature. For example, asking intriguing questions or using a familiar object in a new way can be considered as the introduction of novelty. [↑](#footnote-ref-12)
18. The spirit of faith is known in Christian doctrine as the second birth. If not all theoreticians have experienced a spiritual reawakening, it would be difficult to achieve consensus on its inclusion in a theory of spiritual development. [↑](#footnote-ref-13)
19. At this point in the development of WES these categories are extremely tentative. The Prophet Bahá'u'lláh has described spiritual development in two schemes; one comprised of seven stages and the other of four stages. He also asserts that there are numerous spiritual states, stations, and divine virtues which are latent within human reality the actualization of which requires knowledge, volition, and action. Organizing coherent, logically consistent categories of spiritual potentiality is a task for the future. [↑](#footnote-ref-14)
20. There are both bottom-up and top-down relationships existing among these four sets of causality and their corresponding environments, but, in terms of their degree of power, they can be viewed as being roughly organized in a hierarchical relationship with spirit having power over mind, emotions, and intentions; mind over social relationships, and social relationships over relationships with the physical environment. Self-causation can be considered as being comprehensive because all types of causation are involved in the development of the individual. The Self can also be viewed as being part of the social environment, depending on the perspective. [↑](#footnote-ref-15)
21. The idea of material virtues may sound strange to the reader. Examples would include physical cleanliness and recycling waste products. [↑](#footnote-ref-16)
22. Robert White's concept of effectance motivation has been applied in WES to all categories of higher-order competence; the idea being that one of the strongest intrinsic motivators to be harnessed by educators is the learner's desire to achieve intended outcomes in his/her interactions with all aspects of the environment. [↑](#footnote-ref-17)
23. In this principle Professor Jordan has pinpointed the differentiation-integration-generalization trinity as the fundamental process (as he would say, "So fundamental that there is nothing more fundamental!") underlying learning, development, and, (as he stated in one of his video-taped lectures), evolution (with the possible exclusion of generalization in the evolution of nature and other natural processes such as growth and reproduction). [↑](#footnote-ref-18)
24. The first five definitions are taken directly from the Anisa literature. The remainder are my own elaborations. [↑](#footnote-ref-19)
25. I am indebted to Irene Hartley for the identification of this sub-process--the realization that all learning is colored by our feelings. [↑](#footnote-ref-20)
26. When put into practice this approach generates incredibly dynamic learning activities. [↑](#footnote-ref-21)
27. WES seeks to strike a balance between self-chosen goals and society-chosen goals. It is assumed that the accumulated experience of a culture knows better than the child what knowledge and skills are needed for high-quality survival. Yet within the broad expectations of society there needs to be room for individuals to pursue there own interests which often reflect their latent talents and future area of contribution to society. [↑](#footnote-ref-22)
28. Every curriculum topic in any of the six strands (process, content, symbol system, values/virtues, higher-order competencies, and the Self) will always contain a process and a content aspect. It is impossible to teach process without content and even the dullest content lesson contains some process for even rote memorization and recall require certain cognitive processes (Ginsburg and Opper, 1988). [↑](#footnote-ref-23)
29. The emphasis here is the knowledge of fundamental, scientific laws and principles. The applied sciences and other applied fields, which draw upon the knowledge base of the theoretical sciences and fields of study, are found in the curriculum strand "higher-order competencies." [↑](#footnote-ref-24)
30. The higher-order symbol systems (Gardner, 1983) are closely related to the content areas and are nearly impossible to separate from them. Their assimilation appears to require direct teaching. That is, they do not develop naturally by themselves (given a normal environment minus a teacher). Hence, mathematical logic, which is possessed by people in cultures who have no math symbol system or those who have not learned the system, must be differentiated from the mathematical symbol systems which have a written form. Also, speaking and understanding the spoken word (lower-order symbol systems), which develop in all cultures (some cultures' knowledge has been passed on exclusively by oral tradition), must be distinguished from reading and writing. (For example, the parents of the American frontier sent their children to school to be taught only how to read and write because these could not be transmitted under normal living conditions in the home.) Natural musical creativity, too, must be differentiated from the ability to read and write music. The former can develop naturally but the latter requires a specially arranged learning environment. (In WES development and learning are viewed as two, interactive aspects of a whole. Each can constrain or facilitate the other.) [↑](#footnote-ref-25)
31. To my knowledge there is no other program which offers such a coherent and detailed curriculum for the individual person. [↑](#footnote-ref-26)
32. Further aspects of the Self were delineated in the theory of development and learning. [↑](#footnote-ref-27)
33. Delineated in the theory of development and learning. [↑](#footnote-ref-28)
34. Delineated in the theory of development and learning. [↑](#footnote-ref-29)
35. The interested reader is referred to the Summary Statement of the Anisa Model available via the ERIC system (Document Reproduction Service No. ED 110387). [↑](#footnote-ref-30)
36. f. Personal conversation with the author in October, 1998.

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