

‘INTEGRATING FAITH AND LEARNING’ REVISITED: A COSMIC PERSPECTIVE

Don C Roy

INTRODUCTION

For nearly three decades, the term, ‘integration of faith and learning’, or IFL, has stimulated the imagination of Christian educators. But as time has passed, the concept has become a cliché and lost its potency. Narrow, superficial, and contrived attempts to implement the concept have often only confused the issue further and induced a degree of cynicism. Despite this trend, the concept is still as relevant and important as it always has been, and there is no excuse for complacency. This paper does not wish to oversimplify the concept and its implications, but rather, to demystify it, to explore its implications in the new and enabling ways, and to propose strategies for implementing it effectively. In so doing, we will glorify God by reflecting his image more faithfully, as we were originally destined to do. This paper is simply a reflection of *one* Christian educator's personal journey in relation to IFL. It is offered in a spirit of collaboration in the hope that it may stimulate further our collective understanding, and empower our ministry, by reflecting His image more genuinely.

WHY *INTEGRATION OF FAITH AND LEARNING*?

The perceived need to integrate faith and learning is symptomatic of the fact that we live in an alien, fragmented environment in every sense of the word. As Paul implies in his exhortation, the prevailing culture of wider society at any time can corrupt our sensibilities more than we realize.ⁱ Even non-Christian authors have produced an abundance of literature attesting to the dehumanizing, alienating effects of modernity and a sense of *homelessness* and anomie producedⁱⁱ. Of more recent time, the consequences of postmodernity with its arrogant rejection of cohesiveness, identity, purpose and normative guidance have been argued eloquentlyⁱⁱⁱ. The number of publications in the ASCD's 2000-2001 catalogue relating to the lack of community, ‘soul’, and integrity in today's education is indicative of this climate. It is a sad reality that our fallen natures predispose us to insensitivity, and with it, a risk of adopting, without question, many practices that are inconsistent with God's ideal. In fact, some traditional educational practices that are assumed to be benign are actually *dis*-integrative and individualistic in essence and effect. One Christian educator appropriately warned, ‘If we don't know where we are going, we might end up some place else’! Discerning sensitivity driven by a coherent, systematic rationale and frame-of-reference, is a mandate for all Christian educators.

The author, Don Roy, PhD, is currently Associate Director (Curriculum) in the Australian National Education Office of the Adventist School System.

Email: donroy@ozemail.com.au

PROBLEMS

In reflecting on the concept itself, a number of problems concern me. Firstly, the term *integration of faith and learning* represents a dualism. Essentially, faith and learning are inseparable. The development of one's personal faith is essentially a learning process that produces a sense of meaning, focus, and purpose - that is, 'faith'. How can one join what is already whole? The problem is that it is symptomatic of superficial and reductionist inclinations to *perceive* them to be separate. More than anything else, it is *our thinking* that needs to be rectified before our practice can be consistent and authentic.

A second problem is a misunderstanding of the relationship between the sacred and the secular. Again, we tend to create a false dichotomy by feeling that we have to add a veneer in the form of religious jargon or overt biblical content in order to make the teaching and learning environment and its associated material *kosher*. There is no denying that biblical content and references *will* form a natural and logical component, but not as an add-on. The Carmelite monk, Brother Lawrence, who practised the presence of God through the washing of pots and pans, and serving his brothers, epitomizes the reality of how spirituality pervades even the most mundane of life practices. If there is a differentiation to be made, it is the distinction between the secular and the *profane* that needs to be clear.

Thirdly, the application of IFL often seems to be limited to the transformation of course outlines and subject matter. Other aspects of the teaching and learning environment such as pedagogy, assessment practices, administrative policies, relationships, and the institutional culture, etc seem to be low on the priority scale, if present at all.

Finally, implementation efforts often appear to be *back-to-front*. They begin with a particular element, such as one's teaching field or subject, and then attempt to transform its content into something 'spiritual'. Mathematics is often cited as an example of how difficult this is to achieve. Following this approach virtually promotes that element to the *centre* of the universe, around which everything else must fall into place, rather than an adopting a cosmic or global view as the starting point, or cosmic orientation, and then seeing how the particular element *contributes* to that universal perspective.

UNPACKING THE TERMS – FAITH AND LEARNING

It is important for us to demystify and clarify some of the term is that we had began using in this discussion. For example, What do we *mean* by faith?

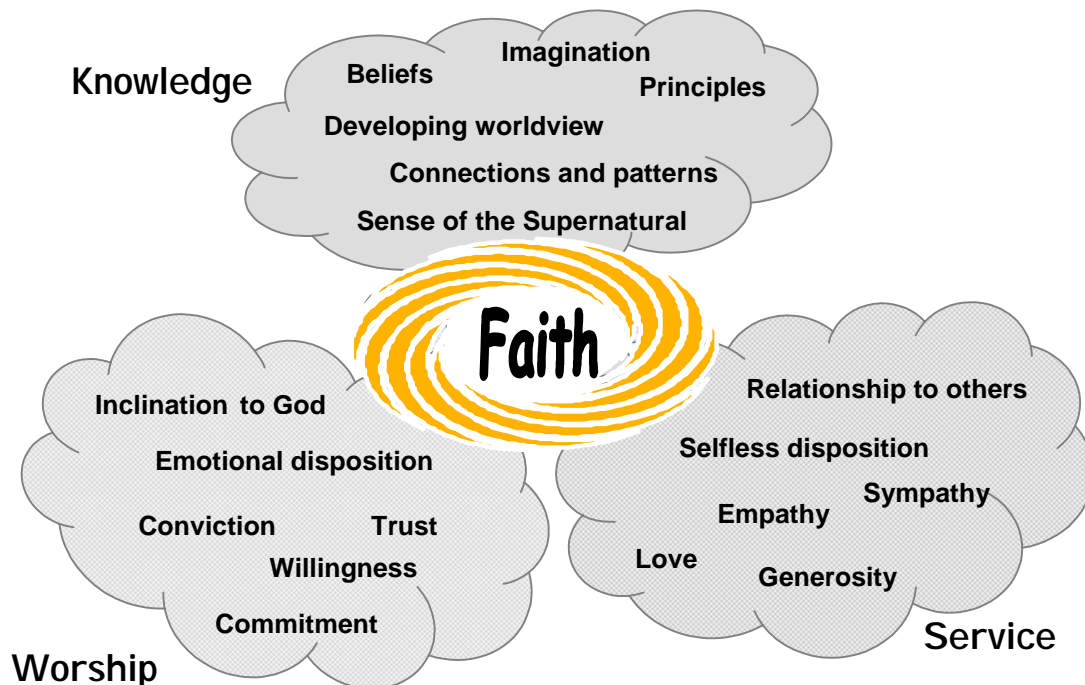
Faith is complex. But in concise terms, it represents a sense of personal meaning, life orientation or worldview. By nature, faith reflects:

- one's understanding and sense of the supernatural (*believing*)
- one's level of trust and commitment, relationship to the supernatural God (*trusting and worship*)
- ethical and moral behavior, and interpersonal relationships (*doing*)

These represent distinct *cognitive*, *affective* and *service* dimensions of faith. Whatever dimension one considers, a clear *relational* quality is implicit. It links humans with the supernatural, with other humans, and with the created world. It is more than mere mental assent. There is a clear practical outgrowth from it. The Ten Commandments, for example represent this relational

quality well. Those who regard them as being negative, misunderstand the nature of authentic faith. In reality, they highlight the fact that when we think and act against the principles implicit within them, we actively alienate ourselves from God and our fellow creatures. The spirit of *relationship* is also conducive to *group* cohesiveness growing out of unselfish, unconditional love (*agape*), and group sensitivity (*koinonia*). The *body of Christ* metaphor captures beautifully this communitarian spirit. Thus faith can be seen as part of God's plan to reverse the alienation caused by sin. It reflects an active *personal* connection with God through Jesus and the nurture of the Holy Spirit.

Such faith is dynamic. It grows continually. Obviously, small children perceive God, the world, and others differently from older children, adolescents and adults. Throughout life, individuals develop through definitive stages of maturation. As a definitive statement though, two main points are made. First, faith represents personal *meaning-making* resulting from their response to the world, and second, they are *active* agents in that process. At the risk of reductionism and over-simplification, the foregoing discussion might be represented as a model to represent the faith complex.



With this in mind, it is easy to see a *learning* dimension in faith growth and development, as individuals actively explore and share their reality. Much of the sharing will be between learners and their mentors - be they teachers, parents or other significant individuals. This view has critical implications for how mentors relate to students, as well as the learning processes they use to help the learner develop a personal sense of meaning. There is no room in this conceptualization for a *passive* individual. The relationship between mentor and learner is not one-directional either. From Parker Palmer's perspective, for example, an interactive *learning*

community is a fundamental context for *knowing truth* in the deepest and fullest sense ^{iv}. In such communities, mentors themselves are no less learners than those under their guidance.

It is not difficult to recognize a conceptual link between this view of faith development and contemporary views of learning. Caine and Caine ^v for example, see learning as:

- making connections;
- seeing patterns and wholeness;
- seeing a 'big picture'; and
- finding meaning.

Such a view reflects a move from 'surface knowledge' to 'deeper meaning'. In similar vein, research on the function of the brain in learning accounts for ideas and experiences being built into 'neural nets' or 'maps of meaning' that go together to make up a 'big picture' (or *gestalt*). Such conceptualizations of learning help us to understand what faith is and how it grows. These ideas are not new in essence. Fowler^{vi}, for instance, speaks of the development of personal 'master stories' as part of one's faith. These master stories are at the heart of what Stephen Covey^{vii} describes as 'paradigms' that inform and drive the development of personal integrity of character, meaning and effectiveness. Dwayne Huebner^{viii} introduces the metaphor of 'weaving' in which individuals create a 'fabric of life' comprising an interweaving of ideas, abstractions, memories, biblical metaphors, and cultural mores derived from the faith community and the relationships within it. He argues that life in the intimacy and context of those relationships affirm a personal and a collective past that in turn, acknowledges, practices, and celebrates the presence of God. And it is dynamic, nourishing, and renewing. Such ideas are consistent with the kind of individual God created in His image 'with power to think and to do' ^{ix}. What is envisaged, in essence, is a restoration of wholeness through a process of upbuilding and healing (*katartismos* – See Ephesians 4:11-13) in the context of a faith community, or *koinonia*^x. As George Knight appropriately argues, Christian education is true ministry and each teacher an 'agent of salvation'^{xi}; a ministry of reconciliation in every respect. It is also 'religion' in essence (Latin *religare* = to bind together again). It represents an intentional attempt to reverse the *alienation* resulting from the Fall. Such considerations are reminiscent of the sentiments embodied in another cliché, namely 'the restoration of the image of God in humanity'. Sadly, this too seems to have disappeared from our discussions. First and last, 'integration' must convey connotations of wholeness characterized by 'kingdom values' or as Donald Kraybill^{xii} argues, the values of an 'upside-down kingdom' that are essentially diametrically opposed to selfish this-world values. *Integrity* takes on new character.

A COSMIC PERSPECTIVE OF IFL IN EDUCATIONAL SETTINGS

The challenge for educators is determining just how this might be incorporated into practice. As a step in this direction, a definition may prove helpful. Humberto Rasi's definition of 'the integration of faith in learning' accommodates comfortably the sentiments expressed in the foregoing discussion. In his view it represents:

a deliberate and systematic process of approaching the entire educational enterprise from the biblical perspective. Its aim is to ensure that students, under the influence of Christian teachers and by the time they leave school, will have freely internalized biblical values and a view of knowledge, life, and destiny that is Christ-centered, service-oriented, and eternity-directed.^{xiii}

This definition encompasses literally everything in the daily life and conduct in the Christian school. Every element of that spectrum is informed, driven, and validated by a ‘biblical perspective’ or worldview, just as *everything* we do is based on choices informed by our worldview, whether we are conscious of it, or not.

A ‘biblical perspective’ is certainly more than a nebulous, ‘warm-fuzzy’ feeling towards a God who ‘loves us’, etc., etc., as true and wonderful as that is. A biblical perspective comprises a *range of assumptions* which are cosmic, foundational, and can be clearly articulated. These assumptions provide a comprehensive frame of reference not only to inform and authorize everything that occurs in the school, but also gives the school community that embraces it, a distinctive character and ethos (a culture) consistent with God’s ideal. In so doing, it reflects something of what God is like – *imago Dei*. The term ‘cosmic’ is used intentionally here. As stated earlier, some of our previous efforts to transform our school program have been *outward-looking*, that is, the various components, usually subjects, have become the *centre*. The end result is that the effort itself is chaotic in the sense it becomes *multi-centred*. Instead we need to begin with a *universal* perspective that *encompasses* and informs each aspect of the program. A cosmic view or ‘big picture’, is like a mosaic in which each part is a tile that contributes towards the whole. The stark difference and implications of that reversal of perspective is more significant and profound than may be apparent initially.

ELEMENTS OF A COSMIC, BIBLICAL PERSPECTIVE

Ultimate Reality

- God constitutes ultimate meaning, purpose and values.
- God is the infinite origin, designer, cause, and sustainer of all life and existence.
- Although God is the creator and sustainer of the universe and natural order, He is distinct from it and above it.

Human Existence

- The creation of humanity was planned, complete and perfect.
- Humanity is unique and distinct from the rest of the natural order.
- The uniqueness of humanity rests in the fact that God made man *in His image*, that is, to reflect something about Him.
- As creatures, humans are dependent on God for life, meaning, understanding and purpose.
- Human personality was created communicative, reflective, emotional, creative, free to choose and act, relational.

The Human Predicament

- Because of willful choice, humanity lost the privilege of essential face-to-face communication and relationship with the creator.
- The impact of humanity’s choice extended to and polluted the rest of the created order.
- Satan, as a distinct personality, figures prominently in the causal events as the author of distrust, disharmony and alienation.

God Restores Communication and Reveals Himself Again

- God took the initiative, throughout history and in appropriate ways, to reveal Himself and His purposes to fallen humanity.
- The clearest revelation and self-portrayal God is in the person of His Son, Jesus Christ, truly God, and truly man.
- The Bible is a reliable, trustworthy account of God's character, unselfish love, and purpose in response to humanity's choice, and its effects.
- The Holy Spirit makes God, the Father, accessible through an understanding of and appreciation of Jesus, the Son.
- God shows us something of his personality, mind and character in what he has created.
- God also communicates through providential encounters directly with humans, and the evidence of transformation and restoration in the lives of individuals responding to Him.

God's Plan for Redemption and Restoration

- God took the initiative, through the substitutionary death of Jesus, and the creative action of the Holy Spirit to restore the broken relationship, and bring about new birth and growth.
- God's character is thus *visible* again to humans who choose to view it through Jesus' character, life and teachings,
- Growth in this relationship is a life-long, growing relationship characterized by progressively more consistent reflection of the principles and lifestyle demonstrated in the life and ministry of Jesus.
- God will bring an end to sin and suffering and will restore creation to its original state of perfection, wholeness and harmony.

The Cosmic Drama

- The conflict between good and evil, has been, and is being played out over time between Christ and Satan as the authors and the embodiment of good and evil.
- The outcome of the cosmic conflict is guaranteed by virtue of the perfect life lived on Earth by Jesus, God incarnate, His substitutionary death on the Cross, and His power over death at His resurrection.
- Jesus will return visibly to Earth as the rightful Lord and King of all.

THE IMPLICATIONS FOR CHRISTIAN EDUCATION – THE *INTEGRATED* SCHOOL

The adoption of a foundational, biblical perspective immediately provides *a sense of relevance, purpose and justification* for Christian education and the related aspects of the school program. It provides its unambiguous *raison d'être*. The following summary suggests how it might inform and shape the character of the authentic Christian school.

The Place and Goal of Christian Education

- Christian education facilitates the restoration process towards God-likeness in humanity through the harmonious development of the physical, mental, social, spiritual, and emotional faculties.

The Context of Christian Education

- A sociocultural environment and ethos that is sensitive to, and endorses biblical reality, the authority, and values.
- Interpersonal relationships will support individuals in the culture of the school as a community of faith, encouraging them to live out and share its story tacitly, actively and confidently.
- Relationships will be sensitive, accepting, inclusive, affirming and supportive of all members of that community.
- Teachers, as mentors, will model consistently the values that characterize the culture of the school community.

The View of the Learner

- Students will be viewed as creatures in the image of God who are thinkers, decision-makers and actors, with diverse intelligences, gifts, and emerging theories about the world.

The Curriculum

- The biblical metanarrative and the worldview emerging from it provide the orientation and frame of reference to inform and guide all aspect the curriculum and its development.
- The curriculum will be presented 'whole to part' with emphasis on big concepts. This means that each subject or learning area relates to and contributes to an illumination of the 'big picture'. Interdisciplinary links will be sought and promoted.
- Major strands within the subject, and key concepts in each strand will fit consistently within this frame of reference. The learning areas of the curriculum (KLAs or disciplines) represent either 'windows' to see and appreciate God's character, purpose and action in the context of the cosmic conflict, or 'windows of opportunity' to respond and behave in ways consistent with 'kingdom values'.

Note: An example of how this might appear is given in the Appendix B in relation to the elementary Social Science syllabus I prepared recently for Australian Adventist schools.

The Teaching-Learning Environment

- The teaching-learning environment will be sensitive to the nature of human nature as it was originally created in the image of God.
- It will honour students as creatures of God by engaging and stimulating the full range of their gifts via a rich and diverse pedagogy.
- Teachers will seek to develop connections between the knower and the known, between the head and the heart, fostering the development of sophisticated maps of meaning in their students. Consequently there will a marked shift from behaviorist to appropriately transformed cognitivist approaches to learning.
- Teaching approaches will acknowledge and affirm the diversity of intelligences and gifts shared between the learners.
- Teachers will generally behave in an interactive manner with students, functioning as facilitators and mentors.
- Student questions will be valued and addressed constructively.
- Students will often work in collaborative learning, cooperative learning and peer-sharing settings.

- The school program will provide opportunities and support active learning and application. This will involve unselfish sharing and service in a wide range of activities, both within and beyond the school.

NOTE: In reflecting on these points, the reader will no doubt recognize a number of contemporary perspectives such as brain-compatible learning, multiple intelligences, emotional intelligence, constructivist approaches^{xiv}, etc that may be incorporated selectively to fit within the integrated perspective. While these should not be seen as the various proponents' consideration of integration of faith and learning in the particular mode as discussed in this paper, they do attempt to provide for a more enriched, meaningful learning environment.

Assessment

- Assessment of student learning will be incorporated as an integral part of the teaching-learning cycle.
- It will reflect a diversity of approaches and criteria motivating and supporting constructive learning and the achievement of goals rather than interpersonal competitiveness and the ranking of individuals.

CONCLUSION

Education of these dimensions honors God dramatically by meeting the deepest needs for connectedness and wholeness – integrity - in the lives of our students. It also has the potential to grow beyond each individual and the school communities they indwell to the world beyond. In this sense, it represents an embodiment of the Spirit's work of restoration and recreation of a lost, fragmented world. In this way, Christian schools can be dynamic communities of faith and part of the ministry of salvation and reconciliation.

APPENDICES

Appendix A - Diagram: 'The Integrated Christian School – A Cosmic Perspective'

Appendix B - Example of a Subject Rationale & Design - Social Science

Appendix C - Example of a Rationale - Science

APPENDIX A

THE INTEGRATED CHRISTIAN SCHOOL: A COSMIC PERSPECTIVE

What is REAL?

GOD
Infinite, Transcendent, Self-existent, Loving
Ultimate meaning

CREATOR
Of Universe
The Natural Order of the Earth
Perfect

What is HUMAN EXISTENCE?

UNIQUE CREATURES, IN THE CREATOR'S IMAGE
IN ESSENTIAL RELATIONSHIP WITH CREATOR

Reflective, Emotional, Free to Choose and Act,
Communicative, Creative, Relational-Sociable

What is our PREDICAMENT?

A SELF-INFLICTED, BROKEN RELATIONSHIP WITH THE CREATOR
THE RESULT – A BLIGHTED CREATION - *DIS*-INTEGRATED

A NEED FOR REDEMPTION & RESTORATION
A NEED TO “SEE” GOD AGAIN – TO BE MADE *WHOLE* AGAIN

What is GOD'S RESPONSE?

GOD TOOK THE INITIATIVE TO REVEAL HIMSELF AGAIN
& RESTORE THE RELATIONSHIP

How do we KNOW?

THE SCRIPTURES
THE CREATED ORDER
PROVIDENCE
THE TESTIMONY OF HISTORY

What is of VALUE?

PRINCIPLES AND VALUES THAT CHARACTERIZE
“THE KINGDOM OF GOD”

What is the PLACE & GOAL OF CHRISTIAN EDUCATION?

THE RESTORATION OF GOD-LIKENESS IN HUMANS through
the HARMONIOUS DEVELOPMENT of the
PHYSICAL, MENTAL, SOCIAL, SPIRITUAL & EMOTIONAL faculties.

What is the CONTEXT OF CHRISTIAN EDUCATION?

A SOCIO-CULTURAL ENVIRONMENT AND ETHOS THAT
ENDORSES AND LIVES OUT
BIBLICAL REALITY, AUTHORITY & VALUES

What is the NATURE OF THE STUDENT?

IMAGE-BEARERS OF THE CREATOR, ALBEIT IMPERFECT
THINKERS, DECISION-MAKERS & ACTORS with
DIVERSE GIFTS & EMERGING THEORIES ABOUT GOD & THE WORLD

What is the PLACE OF THE LEARNING AREAS OF THE CURRICULUM?

The LEARNING AREAS of the CURRICULUM provide -
- “WINDOWS” TO SEE/PERCEIVE GOD
- in the context of “The Great Controversy”, or
“WINDOWS OF OPPORTUNITY”
to RESPOND IN WAYS CONSISTENT WITH “KINGDOM VALUES”.

What is the PLACE AND FUNCTION OF THE TEACHER?

TEACHERS will be MODELS of the SCHOOL CULTURE, its ETHOS, and VALUES.
They will FUNCTION INTERACTIVELY as FACILITATORS and MENTORS
towards MEANINGFUL LEARNING.

What is The IDEAL LEARNING ENVIRONMENT?

An Enriched Environment and Pedagogy that is sensitive to:
CROSS-DISCIPLINARY LINKAGES • STAGES OF FAITH DEVELOPMENT
THE MULTIPLE INTELLIGENCES • EMOTIONAL INTELLIGENCES
BRAIN-COMPATIBLE LEARNING • CO-OPERATIVE LEARNING

What is AUTHENTIC ASSESSMENT?

AN INTEGRAL PART OF THE TEACHING-LEARNING CYCLE
OUTCOMES-BASED • DIVERSE
STUDENT PORTFOLIOS • DESCRIPTIVE REPORTING

APPENDIX B AN EXAMPLE OF A SUBJECT RATIONALE & DESIGN

THE PLACE OF STUDIES OF SOCIETY & ENVIRONMENT IN THE ADVENTIST SCHOOL

The syllabus grows directly out of a biblical worldview, and attempts to develop understandings relative to life, relationships and action in the social context, and the interactive relationship between humans and the environments in which they live.

The learning area is particularly relevant to Seventh-day Adventist educators because:

1. The biblical account of the creation of humanity is a fundamental understanding: male and female, in complementary, harmonious relationship, and the commission to create family and human society. It recognises sociability and relationship as special characteristics of humans created in God's likeness. Although other life forms within creation display sociability, humans stand apart by virtue of their capacity to make moral and ethical choices.
2. The biblical account sees humans as accountable caretakers for an environment provided by the Creator to meet a major portion of their needs. It also sees the environment as a context providing opportunity for productive, dignified work and effort. It recognises these characteristics as being pre-Fall conditions, and in that sense, representing God's ideal design.
3. In the face of alienation, fragmentation, disharmony and immorality in society resulting from the Fall, the study in this learning area is seen as an opportunity for building and promoting relationships, community and harmony as understood to represent God's original order.

THE STRANDS, CONTEXTS AND CONCEPTS OF THE SYLLABUS

In order to study the area in a systematic manner, five major strands have been adopted.

TIME, CONTINUITY AND CHANGE (History)

Awareness of how people's actions, values and perspectives for the future are shaped by their understanding and interpretation of past (historical) events and traditions.

Biblical Context:

- God is infinite, beyond the bounds of time, and is ultimately in control of the course of history and the future.
- Aspects of the Great Controversy are reflected in human interaction and history.
- Our identity is grounded in our personal stories and heritage.

Concepts:

Past, present, future • Significant events • Cause and effect •
Continuity • Change • Consequences • Significant people/events •
Personal/Family/Community/National stories • Heritage

CULTURE (Sociology)

Understanding that people form groups because of shared understandings of the world and, in turn, they are influenced by the particular culture so formed.

Biblical Context:

- God created humans as social beings to relate to Him and to one another.
- Our view of God and the world contribute to, and influence our morals and values.
- Cohesion and community is founded on mutual sharing and participation in the life, practices, traditions and mores of the cultural milieu.

Related Concepts:

Symbols • Language • Traditions • Beliefs • Group cohesion •
Diversity • Multiculturalism • Commonality • Difference

ENVIRONMENTS (Geography)

Understanding that the way people interact with their habitat is influenced by its location, characteristics, and how it has been developed.

Biblical Context

- God created the natural world to show us something of Himself.
- God gave humanity the responsibility of caring for the natural world.
- Our respect for God is reflected in the way we use and care for the environment.
- Our use of the environment in the past, present and future has direct, inevitable consequences.
- Understandings of places, natural systems, spatial patterns and processes are vital to environmental sustainability.

Related Concepts

Environments • Ecology • Environmental Impact • Conservation •
Sustainability • Balance • Responsibility • Habitats • Recreation

RESOURCES (Economics)

Understanding how people attempt to meet their needs and wants by making optimum use of limited resources in enterprising ways.

Biblical Context

- God provided the natural world as a resource providing for human needs and well-being.
- Humans were entrusted with the utilization of natural resources.
- We honor God and our fellow creatures by our commitment to productive enterprise and responsible labor based on ethical principles and practices.
- In a world of need and inequality, we demonstrate our love for God and others in the way we use the resources in our possession and control.

Related Concepts:

Resources • Raw materials • Goods and services • Supply and demand •
Production • Distribution • Inequality • Poverty • Stewardship

SOCIAL ORDER (Political Studies)

Understanding that social order and harmony depend on democratic principles and social justice being practiced by all members of the community. Governments and public services create and maintain laws based on these principles and values.

Biblical Context

- God's kingdom is characterized by order, respect, unselfishness and unconditional loving action towards our fellow humans.
- The Bible provides models and principles for how humans can live together in harmony and organize their interaction in an efficient, orderly manner.
- Law and order protect rather than restrict.

Related Concepts

Rights • Responsibilities • Equality • Fairness • Justice • Rules •
Group co-operation • Order • Personal responsibility • Government •
Democracy

APPENDIX C

THE PLACE OF SCIENCE IN THE ADVENTIST SCHOOL

The study of Science provides students with an opportunity to explore and draw conclusions about the natural environment immediately around, and the universe beyond. Contrary to popular evolutionary views, this environment is seen as evidence of God's orderly and intentional activity exercising infinite power of awe-inspiring proportions. As such, it reveals something of the Creator's personality and character.

Humans are seen as occupying a unique and distinct part of this creation by virtue of their capacity for reflection, moral choice and action. Although humans are finite, fallible creatures, they have a capacity to observe and study Science systematically, and thus to know and understand something of the created order, natural phenomena, processes, principles and laws. The various 'sciences', as we know them, represent the study of particular aspects of the natural order – for example, earth and space, living things, the physical world, and matter. One scientist has described such study as 'thinking God's thoughts after Him'. The result is a sense of awe, wonder, and appreciation of the intelligent design, order and complexity that is evident. Consequently, it becomes inconceivable for it to have "just happened".

Although the created order was originally in perfect harmony, it is recognised also that Satan has actively attempted to corrupt, distort, and discredit God's work and character. It is therefore important to develop ways of critical thinking and discernment in the study of Science, acknowledging that future discovery may challenge views previously held.

Although the created world is *God's* world, Christians acknowledge that humanity has been given responsibility for its care and management. The study of Science therefore provides an opportunity for students to develop understandings, sensitivities and skills to help them do this more effectively and responsibly. In so doing, they are also image bearers and representatives of the Creator. It is in the way Christians relate to and care for this created order that they demonstrate their appreciation, respect and love for God.

STRANDS, CONCEPTS AND CONTEXTS OF THE SCIENCE SYLLABUS

STRANDS	SUBSTRANDS	FOCUS
Earth & Space	The Changing Earth Our Place in Space	Earth Science; Astronomy
Living Things	Structure & Function Biodiversity, Change & Continuity	Biology; Zoology; Physiology
Physical World	Energy & Its Uses Forces & Their Effects	Physics
Natural & Processed Materials	Structure & Properties Reactions & Change	Chemistry; Material Science

EARTH AND SPACE

As part of God's creation, the Earth and the Universe are a visible, awesome evidence of His intelligence, power and design.

Natural environments are dynamic and have living and non-living components that interact.

Laws and principles relative to life and nature on Earth are consistent throughout the Universe.

Contradictory elements in nature are part of the effect of sin's entrance.

Natural and human processes contribute to form and change in the Earth over time.

LIVING THINGS

All life originates in God, the Creator.

As part of God's creation, the living world provides visible, awesome evidence of His intelligence, power and design.

Natural environments are dynamic, interactive and interdependent. A "law of service" is evident throughout nature.

All living things reproduce within their own species.

Humanity is distinctively apart and above other life forms on the Earth, and was originally given dominion over the created order.

Contradictory elements in nature are part of the effect of sin's entrance.

PHYSICAL WORLD

Energy resources are part of God's creation and provided for use by humanity, also part of His created order.

The forces acting on objects influence their motion, shape, behaviour and energy.

In interactions and changes, energy is transferred and transformed but is not created or destroyed.

There are different ways of obtaining and utilising energy and these have different consequences.

Humans are responsible and accountable as stewards of the resources God has provided.

NATURAL & PROCESSED MATERIALS

Materials are part of God's created order and made available for us to use in daily life.

The properties and structure of materials are interrelated.

Materials can be grouped according to different properties.

Patterns of interactions between materials can be identified and used to predict and control further interactions.

The uses of materials are determined by their properties, some of which can be changed to make them more useful.

We are responsible and accountable for the effects of changes we make to materials.

REFERENCES

- i Romans 12:2
- ii See P. Berger, B. Berger & H. Kellner, *The Homeless Mind*. New York: Random House, 1973.
- iii J. Richard Middleton & Brian Walsh, *Truth Is Stranger Than It used to Be: Biblical Faith in a Postmodern Age*, Downers Grove, Illinois: IVP, 1995.
- iv Parker Palmer, *To Know As We Are Known*, San Francisco: HarperCollins, 1993.
- v Renate Nummela Caine & Geoffrey Caine, *Making Connections: Teaching and the Human Brain*, Addison-Wesley, 1994.
- vi James Fowler, *Stages of Faith*, New York: Harper & Row, 1981.
- vii Steven Covey, *The 7 Habits of Highly Effective People*, London; Simon & Schuster, 1989.
- viii Dwayne Huebner, 'Practicing the Presence of God', *Religious Education*, vol 82, no 4, (Fall) 1987.
- ix Ellen White, *Education*, Review & Herald, 1903.
- x The link between the New Testament *koinonia* and the school as a 'community of faith' is explored in Don C. Roy, *The Christian School: A Community of Faith* presented at the Scholarly Conference of the National Association of Christian Schools held at Avondale College in 1997.
- xi George Knight, *Philosophy and Education: An Introduction in Christian Perspective*, Berriens Springs, Michigan: Andrews University Press, 1980, pp. 186, 187.
- xii Donald Kraybill, *The Upside-Down Kingdom*, Scottsdale, PA: Herald Press, 1978.
- xiii Humberto Rasi, *Factors in the Integration of Faith and Learning*, Institute for Christian Teaching, Education Department of Seventh-day Adventists.
- xiv Literature in these approaches to teaching and learning are represented by such examples as the following: Ference Marton, 'What does it take to improve learning?' in *Improving Learning: New Perspectives*. edited Paul Ramsden. London: Keegan Paul, 1988 p 271; Howard Gardner, 'Reflections on Multiple Intelligences: Myths and Messages' in *Phi Delta Kappan*, 1995, p208; Pat Wolfe and Ron Brandt, 'What do we know from brain research?' *Educational Leadership*, vol 6, no 3, Nov 1998; Geoffrey Caine, Renate Nummela Caine, & Sam Crowell, *Mindshifts : A Brain-Based Process for Restructuring Schools and Renewing Education*, Zephyr Press, 1994; Eric Jensen, *Brain-Based Learning*, Brain Store Inc., 1995; Eric P. Jensen, *Introduction To Brain-Compatible Learning*, Brain Store Inc; 1997; Marian Diamond & Janet Hopson, *Magic Trees of the Mind: How to Nurture Your Child's Intelligence, Creativity, and Healthy Emotions from Birth through Adolescence*, Dutton: New York, 1998; Daniel Golman, *Emotional Intelligence – Why It Can Matter More Than IQ.*, London: Bloomsbury, 1996.