

TIME AS A METAPHYSICAL DETERMINANT OF PEDAGOGY

BY

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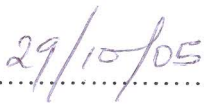
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DECLARATION BY THE STUDENT

This is my original work and it has never been presented for a degree in any other University.

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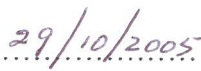
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DECLARATION BY THE SUPERVISOR

This research has been submitted with my approval as the University supervisor

Signature.....

J. O. Edalia

.....

Date

DEDICATION

TO

My wife: Adhiambo and children: Ndege, Oduor, Were, Akoth, Odhiambo, Bondo, Kawaka, Ndony, Amondi and Ogutu who endured innumerable difficulties as a result of this degree.

“As there is no profit in medicine which does not expel the disease of the body, so there is no profit in philosophy either, if it does not expel the suffering of the mind”.

Epicurus (341 – 271 B.C)

ABSTRACT

The study speculated on the role of time as a metaphysical determinant of pedagogy. It was concluded that time through reasoning, propels teachers to teach with a view to enabling students perform well in examinations. Time has metaphysical ability to drive teachers to be committed to their work, either consciously or unconsciously. Individual teacher's harmonious relationship with the cosmos is the essence of pedagogy.

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Since it is not possible to thank all the people who made this thesis what it is, I humbly request those not thanked to accept the fact that they are represented by those mentioned. Any omissions or mistakes as a result of this thesis is solely mine and should not be blamed on any person mentioned

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CHAPTER 1

1.0 INTRODUCTION

This is a philosophical research in the area of education. In this chapter, an attempt is made to lay the ground for the whole research. In doing this, the background to the study, the statement of the problem, the purpose of the study, the theoretical framework including limitations and delimitation are provided. The last section of the chapter deals with methodology.

1.1 Background of the Study

In this section, we establish that adherence to time and time management in pedagogy is an on going concern in education. Time in pedagogy can be considered from both learner's and teacher's sides. In 1963, John B. Carroll published a paper entitled "A Model of School Learning" in which he proposed that all the variables that directly influence the learning of children in school could be defined in terms of time (Dunkin, 1987, page 36). Carroll looked at learning from the learner's side and suggested that the degree of learning is a function of time actually spent on the task over the time needed for the task (Ibid. p. 37). The learner succeeds in a task when they spend time on the task (Ibid). It is observed that in an institution where teaching and learning take place, most activities are timed. Teachers do work according to timetables and, therefore, teaching is a timed activity.

Do teachers teach adhering to the timetables? Do teachers complete the syllabus as timed? According to Eshiwani (1983, p. 29f), "The amount of time spent on the activities of teaching and learning are minimal although these are meant to be the main activities undertaken by a school". Eshiwani asserts that teachers do absent themselves from school failing to adhere to the time schedules and this results to poor performance in national examinations.

Teachers have been frequently accused of falling standards in education due to absenteeism and failure to cover the syllabus. Kimani (2002, p. 33), quoting Griffin (1994) and Campbell and Neil (1994), states that teachers are frequently absent from school making teaching time not to be used for the benefit of the learner. Newspaper reports also contain such accusations. In January 2005, the Daily Nation Newspaper reported that the Malindi District Commissioner blamed teachers for poor performance in examinations due to absenteeism and failure to cover the syllabus (Daily Nation, January 25, 2005, p.17). In February 2005, the same Newspaper reported that 60 teachers were interdicted in West Pokot District mainly because of absenteeism (Daily Nation, February 25, 2005, p.16). Absenteeism, which leads to failure to teach and cover the syllabus, seems to be a perennial issue in education. During the time when the results are released there are intense accusations levelled against teachers.

The authorities like Eshiwani suggest proper administration whereby the school heads are to show the lead in time management as a possible solution.

Despite frequent courses on time management and disciplinary measures meted out against teachers like interdictions and cutting salaries on the days they did not work,

teachers have not properly observed adhering to teaching time. What is it that makes teachers adhere to time and teach and cover the syllabus in time for the purposes of achieving good performance? Can in-servicing teachers on time management make them time conscious? These are questions that need specific attention in order to improve the situation.

According to Mbiti (1969, p.16), the concept of time is central to understanding a people's beliefs attitudes and practices in education. Mbiti maintains that it is only a person who is ignorant of a people's philosophy that can accuse one of not keeping time (Ibid).

From the foregone discussion, it would be interesting to philosophically consider time in teaching. This shows that there is more to time than what time shows on the surface like simple adherence to time as per the timetables that govern operations of institutions in general and teaching programmes in particular

1.2 Statement of the Problem

Failure by teachers to adhere to time schedules and hence non-completion of schools' syllabuses has been a long-standing issue as seen in the previous section. Various suggestions like change of administrative style as suggested by Eshiwani and others have had little or no effect on improvement of time consciousness by teachers in particular.

This study uses a philosophical methodology to investigate the metaphysical dimension of time consciousness in pedagogy.

1.3 The Purpose of the Study

The study examines time as a metaphysical paradigm and explores its role in pedagogy. It explores the real meaning of time beyond mere appearance in pedagogy. The study aims at differentiating time in a metaphysical sense from time in a non-metaphysical sense for purposes of suggesting ways that can be adopted to make teachers good time managers for the betterment of the learners, especially teaching them and enabling them to pass examinations.

1.4 The Theoretical Framework of the Study

The framework of study is based on the theory that speculates on the origin of the universe. The theory is known as the “Big bang theory or God’s explosion” (Nakano, 1994, p. 8). George Gamow, a Russian-born-American put forward this theory in 1948 (Ibid). The theory proposes that the universe originated some 15 billion years ago when a ball of gas exploded, implying that each and every object in the universe originated at one place (Ibid). Since the universe originated at one place, it is construed that every object in the universe is interrelated to one another.

Nakano (1994, p.2) corroborates this interrelatedness by saying, “There is a close relationship between the universe and activities of human beings and all other things”.

Human is connected with the universe through a chain, invisible to our naked eyes, transcending light years of space and time (Ibid. p. 3).

The theoretical framework takes the whole view of the universe or cosmos. Cosmos means harmony and cosmology is the framework of concepts and relations that human beings erect in satisfaction of some emotional or intellectual drive mainly to bring order in to the world as a whole including human beings as some of the elements (Encyclopedia Britannica, 1964, p.582).

The theory is relevant to this study. Pedagogy is a human activity done in the universe. It is not an isolated activity. It is connected with other phenomena, both visible and invisible as stated above by Nakano.

Basing the study on the Big bang theory gives time, metaphysics and pedagogy a holistic approach. Holistic approach gives benefits to a study of this magnitude since there is room for application of both science and parascience techniques (para-methodology). Science gives answers to investigations as a result of sense experiences that are verifiable while parascience includes the study of unverifiable experiences such as occult, paranormal or supernatural (Martin, 1979, p.87). Manifestations of the right pedagogical inclinations could be within or without normal. The whole universe is unique and philosophers are not sure whether it is mechanic or divine (Chukwu, 2002,p.84). Apart from natural and social laws that govern human existence, there are divine laws, which are part of the mysterious universe and are unknown to both science and philosophy (Ibid.p.92).

The universe exists in space-time continuum and scientists like Albert Einstein (1879-

1955) elaborated on this fact (Patrick, 2001, p.87). This view supports the use of the theory explaining the origin of the universe. The theory provides unified point of reference to time as an entity that could have metaphysical influence on human activities.

Another point taken into consideration in using this theoretical framework is the philosophical position of ancient cosmologists. Cosmologists of ancient times like Thales, Heraclitus, Democritus and Pythagoras, among others, postulated on one single substance that could account for the existence of the universe. Thales proposed water as the stuff of the universe and was later proved right when scientists discovered that water is made up of hydrogen and oxygen and hydrogen constitutes two thirds of matter (Patrick, 2001, p.181 and Russell, 1961, p.45). Heraclitus proposed fire (sun) as the essence of the universe and he was right because the sun is the source of livelihood (energy) and it is also the center of the universe with other bodies going around it (Bridgewater and Kurtz, 1963, p.1750). Pythagoras supported the heliocentric view of the universe but proposed that number is the essence of everything (Ibid). Democritus who propounded the atomic theory of Leocippus proposed that everything in the universe including our souls could be accounted for in terms of atoms (Patrick 2001, p.181). Scientists concur that matter is made up of small particles called atoms. These ancient philosophers got support from Plato who reduced the whole universe to Mind, which could only be reached through reasoning (Collier's Encyclopedia, 1965, vol.18, p.705).

Recent philosophers such as Schopenhauer, Bradley and Royce seem to reduce the universe to one entity. Schopenhauer called it "Absolute Will," Bradley called it "Absolute Experience" and Royce called it the "Absolute self" (op. cit. p. 249).

The idea of one entity controlling the universe still puzzles philosophers. Since the universe exists in space-time continuum, now philosophers are searching for the single entity, which is the mother of space and time (Ibid, p.87).

To look at time in a philosophical discourse without taking the universe into focus might not result into a complete discussion of the phenomenon. Time is part and parcel of the universe.

1.5. Methodology

This section treats metaphysics and speculation as closely related concepts.

Metaphysics is also termed the speculative function of philosophy (Brennan, 1967, p. 47).

To make the methodology clearer, an attempt is made to explain metaphysics and speculation. Although other methods such as reflective (phenomenological), rational (analytic), critical, prescriptive and descriptive are alluded to, the dominant method applied in this study is speculation.

1.5.1. Metaphysics

The term metaphysics was coined by philosopher Andronicus of Rhodes from the Greek “meta ta physika” meaning that which comes after physics (The American Peoples Encyclopedia, Vol. 13, 1962, p. 306f). Andronicus was early editor to Aristotle’s work (Ibid). The works were not titled and they were found after the ones

entitled physics and that is why they were termed metaphysics (Ibid. and Njoroge, 1977, p.7). To Aristotle, the untitled works were very important. He termed the works first philosophy since he considered them to be prior in dignity and worth to second philosophy (study of being as manifested in particular sciences) (American Peoples Encyclopedia, Vol. 13, 1962, p. 307).

The word gained acceptance among philosophers as the proper name for the study of reality in its most general aspects (Ibid).

1.5.2. Aspects of Metaphysics

There are four aspects of metaphysics, which include ontology, natural theology (theodicy or philosophy of religion), rational psychology (philosophy of mind), and cosmology (Ibid).

Ontology is regarded as the anthropological aspect of metaphysics and it is defined as the study of underlying substance of being (Ibid). Rational theology deals with the rational study of the apparent supernatural purpose behind existence (Ibid). Rational psychology is the study of the structure of individual mind concentrating on the nature, meaning and function of the self in relation to other selves, to the physical world, and to God (Ibid).

Cosmology as defined above is the study of the universe. It revolves around the definition and description of space, time, motion, mind, and natural law. It also studies the interaction of beings in the universe, which includes the food chain

(Ibid). There are two divisions of cosmology: philosophical cosmology and physical cosmology (Ibid). Philosophical cosmology speculates about the meaning and purpose of the universe, while physical cosmology is an empirical science dealing with the physical structure of the universe (Ibid).

1.5.3. History of Metaphysics

From about 500 BC to the present, metaphysics has been greatly discussed by philosophers. According to the American Peoples Encyclopedia, Vol. 13 (1962, p.307), metaphysics coincides with the history of philosophy. Philosophers of Miletus (615 – 494 BC) centred on metaphysical (cosmological) problems of the determination of the basic stuff or common denominator of nature, as explained above.

With Plato, metaphysics and philosophy became synonymous (Ibid). From Aristotle to Galileo, a period of nearly 2000 years, metaphysics was the queen of sciences (Ibid).

The system of Aristotle as mediated through Neoplatonism of Plotinus, survived in the Christian metaphysics of St. Augustine and his successors through the Dark Ages into the Middle Ages (Ibid). Greek philosophers expelled from Athens by Justinian in 529 carried the system of Aristotle to the Near East (Ibid). The system was adopted and developed by the great Islamic philosophers: Avicenna and Averroës. The Christian philosophers of Medieval Europe knew Aristotle through Averroës (Ibid). Christianity through Thomas Aquinas accepted Aristotelian metaphysics. The idea of Thomas Aquinas came to be known as Thomism, which forms the basic

philosophy of the Catholic Church (Ibid).

Renaissance and Reformation brought decline to metaphysics because a person of faith was regarded as unreasonable.

In the 18th century, metaphysics became rational psychology (Ibid). Hegelian Philosophy promoted metaphysics. Rejection of Hegelianism expressed in the emergence of materialism and existentialism, somehow, caused its decline, but recently metaphysics has been defended very strongly by Alfred North Whitehead and Albert Einstein who maintained that science cannot tell mankind the ultimate reality (Ibid).

1.5.4 Metaphysics for Today and Tomorrow

Metaphysical realities are concerns of both philosophy and science. According to Kneller (1971, p.6), “No science can be more secure than the unconscious metaphysics which it tacitly presupposes. As there is a material object behind every sensation, so there is a metaphysical reality behind everything that human experience shows to be real”. Bertrand Russell (1961, p. 7) authenticates this claim by saying, “Every writer on philosophy is unconsciously metaphysical”. Toulmin, Hepburn and Macintyre (1957, p.9) assert that metaphysicians exhibit implications of science, aesthetics and religion.

Metaphysics do play an important role in trying to understand the universe and will continue to do so in the time to come. Chukwu (2002, p. 85), when quoting Nyasani,

says that since no branch of knowledge is able to give a comprehensive account of the universe, metaphysics will continue to play a complementary and supplementary role where relevant disciplines appear to be floundering.

1.5.5 Speculation

Speculation is a synthesis of conclusions made in philosophy and sciences to arrive at a more comprehensive world perspective (Brennan, 1967, p.202\). Russell (1961, p. 13)

says, "Philosophy is the product of religion and science. It is between theology and science. Since it is theology, it consists of speculation. And because it is science, it appeals to human reason rather than authority".

Speculation is, therefore, the dominant philosophical method used in this study. It is a method, which accommodates non-scientific methods. Time as a cosmological phenomenon is better approached speculatively.

1.6 Justification and Significance of the study

This study addresses the metaphysical role of time behind teachers' professional commitment to complete their teaching tasks as scheduled. It has been realized that teachers do not teach as timetabled and this results to failure to cover the syllabus and hence poor performance in national examinations by learners.

The approach of the study intends to stimulate thought on time as a metaphysical paradigm and show how time on its own can determine pedagogy. The study is

envisaged to benefit education stakeholders, especially teachers and administrators to enhance the education of learners. It is to sensitize them to be good time managers and to try to orientate them to philosophical thinking about time.

1.7. Limitations and Delimitations of the study.

Limitations are issues outside the study over which we have no control while delimitations are issues within the study over which we have control.

1.7.1. Limitations

Time embraces all human activities. All these activities are many and varied and cannot be all considered. For example, time is in medicine, farming, astronomy, mathematics, but all these cannot be investigated.

1.7.2 Delimitations

The study is restricted to education. It is further narrowed to philosophy of education as a discipline. It looks at time from the teacher's and not from the learner's side. It concentrates on metaphysical link between time and pedagogy.

1.8 Conclusion

Subsequent chapters of the study are based on this chapter. The basis of the study is metaphysics, which emphasizes the speculative function of philosophy. Time as a

concept is mainly treated speculatively.

The next chapter deals with the concept of time. It looks at how time is generally viewed in both history and science.

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CHAPTER 2

2.0. THE CONCEPT OF TIME

2.1 Introduction

In this chapter, time is defined and its awareness presented in historical and scientific perspectives. Time will dominate most of the aspects of subsequent discussions.

2.2 Definition of time

Three definitions of time are given. All the definitions fit the discussion but the first one is considered more appropriate to the study than the last two.

Time can be defined as a facet of human consciousness, felt in both psychic and physical experience (Encyclopaedia Britannica, 1979, Vol. IX, p.1013). This definition is considered more appropriate because time touches the psyche of human being, apart from its physical manifestations. Time is within the mind and it is connected with an individual's attitude and behaviour.

Human mind deals with reasoning, which is an indispensable tool in philosophy. In chapter 7, time will be discussed in the light of this definition.

The second definition is given as an aspect of observed environment (Ibid). A lot of activities take place within an environment and they are observed in relation to time.

Our third definition comes from contemporary English. In this context, time is

defined as duration conceived as beginning and ending with the present life or material universe (The compact Edition of the Oxford English Dictionary, Vol. .II. P-Z, p.3873).

2.3. Time in History

The dominant aspect of time in history is its measurement. The history of time measurement is a relic of the ancient Babylonian civilization (World Book Encyclopedia, Vol. 19, p. 226). Babylonian astronomers and astrologers came up with divisions of time whereby 24 hours make a day (Ibid). They used stars and the sun to measure time and later they used ropes with knots and candles for the same (Ibid). Babylonians had 12 months in a year and a month had 29½ days (Ibid). The idea of seven days a week originated with the Jews who had to keep the Sabbath (Ibid).

The ability to measure time makes human way of life possible since most of the activities involve groups of people acting together in the same place at the same time (Ibid). In a school situation, where teaching and learning take place, it is not unusual to witness a group of people observing time together.

2.4. Time in Science

Science and philosophy do overlap in their treatment of time. In science, time can be viewed in physical, biological, and geological perspectives.

2.4.1 Physical Time

Here time is considered as a directional phenomenon. The direction is expressed in

past, present and future (Crane, 1998, p.202). The universe is considered by science as space-time continuum, and time is the fourth dimension of space (Patrick 2001,p.87). Space and time do not mean the same thing. Time exists in direction while space has three dimensions of up-down, left-right, and forward-back (Ibid. op. cit.). In time, we can only move one direction. Human activities, in this regard, can only be done in one direction at a time; time cannot be rewound back for an activity to be done.

2.4.2 Biological Time

Plants and animals exhibit definite time patterns. Human beings can use definite time patterns to reckon their daily activities. An observation made around Lake Victoria shows that people time their short season farming activities with the appearance of a bird known as wagtail whydah (Luo - Nyakwadha). The bird usually appears around the month of September and October and then disappears. The planting of beans takes place when people have started witnessing the emergence of this bird eating insects disturbed by domestic animals from their hiding places in grass and small bushes.

Elton and Messel (1978, p.83) say that there is evidence of biological clocks in plants and animals whose exact physiological positions are the cells. Crane (1998, p.228) supports this by saying that the activities of animals and plants are timed. The above authorities concur that the timing phenomenon is exhibited in rhythmic patterns. In animals the rhythmic patterns are cited as the migration of birds, for example, wagtail whydah, monthly flow of blood in women. In plants, there are

rings in the stems indicating the plants' ages. By counting the rings in the stems of plants planted at different periods, people can estimate the times certain activities occurred.

2.4.3. Geological Time

This time is indicated by the earth's crust. There are clues in the earth's crust showing when the earth was formed (World Book Encyclopedia, 1977, Vol.19, p.228). One of the clues is uranium, which changes slowly into lead by means of radioactive decay (Ibid). By measuring the amount of lead in uranium ore, scientists can estimate when the rock was formed (Ibid). Historians use geological time to determine human activities at different epochs.

2.5 Conclusion

The concept of time to an individual or to a group of people relates to their activities. Time is a measure of these activities. Time also sensitizes individuals to act and get things moving. Time influences human activities both psychically and physically. Psychical influence is deep in the mind and the nervous system where its impact is greater than what it is in the physical realm.

Chapter three deals with the universe and time considerations. It views how time is a significant entity in relation to the bodies in the universe.

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CHAPTER 3

3.0 THE UNIVERSE AND TIME CONSIDERATIONS

3.1 Introduction

In chapter one, the universe was explained as the basis of theoretical framework of the study. This chapter further discusses the universe. In the discussion, the nature of the universe is briefly presented. The Solar System is taken as our universe and its relationship with time is discussed. Lastly the interrelatedness of mankind, time and the universe is given to augment what was given in chapter 1.

3.2 Definition of the Universe

The universe is usually defined in terms of space, time and matter. According to Patrick (2001, p.85), the universe is the totality of space and all that it contains, or the totality of space, time and matter. Chukwu (2002, p. 85) defines the universe as the totality of all that it contains, particularly the celestial bodies; but the universe goes beyond the celestial bodies.

3.3 Nature of the Universe

The universe is not fully understood and it is a challenge to both philosophic and scientific minds (Chukwu, 2002, p, 83). Whether it is number, or matter, or spirit, or energy is not known (Ibid). Its common features are space, motion, and energy (Ibid). It is a boundless energy of infinite existence with infinite activity and movement in limitless and ageless space (Ibid. p. 89). The whole of it can, somehow,

be reduced to mind – energy (Patrick, 2001, p. 395). The universe has neither diameter nor circumference, as these are human ideas, which are not applicable to the whole universe. It is real and a mystery, so to speak.

The universe is a puzzle, especially when reflecting about it. One of the greatest puzzles is its order. Chukwu (2002, p. 84f), quoting Nyasani, says, “The perfect order reigning in the universe, is itself an object of inscrutable marvel as far as the human intellect is concerned”. It exists as an expansive mass of material, semi-material, and rarefied cosmic substances stretching tridimensionally in all directions and possibly to infinity (Ibid).

Cosmic substances exert forces to one another. Forces exerted may be in terms of pressure, humidity changes, gravity, electric and magnetic fields (Elton and Messel, 1978, p.79).

It is estimated that the universe has 500 billion Galaxies (Patrick, 2002, p.79). The Galaxies, out of this number, which can be viewed with our telescopes, are only about 100 million (Ibid). One of the Galaxies contains a star similar to our sun in the Southern Hemisphere. The star is 1000 times bigger than our sun (Ibid). This is a marvel. We are only living on the earth, which is a tiny object in the Galaxy known as the Solar System.

3.4. The Solar System and Time

Our Galaxy is known as the Solar System. It can be considered as our universe. It is also very vast. It is one of the 500 billion Galaxies of the universe. A rocket travelling at 3km per minute would require over ten thousand years to cover its diameter (Patrick, 2002, p.75). The Solar System is moving through space at a rate of 320 km per second (Ibid. p.76). This shows that every moment of time, we are at a different place in the universe.

The Solar System has the sun at the center with 11 planets revolving round it. All the eleven planets as given in the model in chapter 7, revolve round the sun, each, according to specific time duration. For example, the earth takes $365\frac{1}{4}$ days to go round the sun. The farthest planet (planetoid), Sedna, takes 10,500 years to go round the sun (Daily Nation Newspaper, March 17, 2004, p. 16). Sedna is the most distant known object in the Solar System and it is 12 billion km from the earth (Ibid).

3.5 Mankind, Time, and the Cosmos.

Mankind, time and the cosmos are interconnected. In chapter 1, Nakano explains this connection when he says that human is connected with the cosmos through a chain, which is invisible to our naked eyes, transcending light years of space and time. Shepard (1978, p. 59) confirms the same when he says, "There is a link between the nervous system and the cosmic reservoir of energy".

How is this link with the reservoir of energy exhibited in human beings? Is this link connected, in any way, with time consciousness? According to Russell (1961, p.

678) and Albert, et al. (1984, p. 200), Emmanuel Kant was a man of regular routine and people used to set their watches by him.

It has been observed as a regular habit of some people to check horoscopes in newspapers and magazines to find out their fates. Horoscope is a description of someone's character and the likely events in their life that is based on astrology (the position of stars and the dates they were born) (Macmillan, 2002, p.692).

The universe exhibits cosmological justice whereby injustices are compensated by time itself. Anaximander, one of the Milesian philosophers, once remarked, "Certain unnamed things pay the penalty and recompense to one another for their injustice according to time (Gardet, 1976,p 127).

3.6. Conclusion

An attempt is made in this chapter to show that human is connected to time and the universe. The Solar System is of immediate importance to this connection. The connection is harmonious with all objects of the cosmos. Time and the universe are intertwined. There is no activity in the universe that has no time consideration.

The next chapter deals with philosophical considerations of time.

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CHAPTER 4

PHILOSOPHICAL CONSIDERATIONS OF TIME

4.1 Introduction

Some aspects of time as discussed by philosophers are presented in this chapter. Time is explained as chronos and kairos. It is then discussed as passage and related with change. Lastly, direction of time is described.

Whatever way philosophers discuss time, they contend that no discussion on time can be exhaustive. According to World Book Encyclopedia (1977, Vol.19, p.226), time is one of the deepest mysteries known to mankind and no one can say exactly what it is. One way of philosophically reflecting about time is to imagine a timeless world, which actually would be a world at a stand still (Ibid). Elton and Mussel (1978, p.2) say that time is metaphysically associated with something absolute over which we have no control.

According to Russell (1961, p.158), Plato said that the sight of day and night, months and years has created the knowledge of number and given conception of time and then came philosophy. St. Augustine of Hippo supports Plato when he says, "Time was created when the world was created and it can only be measured when passing" (Ibid.p.352).

4.2 Time as Chronos and Kairos

Time can be described as having a twin nature of chronos and kairos. Chronos is time as shown in clocks, calendars and timetables while kairos is transcendental time (Sinha,

2004, p.4). Chronos is the face value of time while kairos is the deeper meaning of time (Ibid). Kairos is transcendence, infinity, reverence, joy, passion and sacred (Ibid).

4.3. Time as Passage

Passage of time is also known as the flow of time (Crane, 1998, p.194). Events that were once future become present and retreat into the past (Ibid). When events are ordered in future, present and past, the term dynamic time series is applied, also known as A-series. An event in A-series can have future, present and past (Ibid). For example, an event such as a referendum on a constitution can have the three features of time as passage. During the discussion on the referendum, it is neither in the present nor in the past but in the future. On the day voting on the referendum is done, it is in the present. After the voting, the referendum retreats into the past. An event like war can have the three attributes of time like a referendum. When hostility is building up, the war is in the future. During fighting, the war is in the present. After fighting, the war retreats into the past.

Pedagogical activities can be considered in terms of passage of time. Preparations to teach lie in the future. The actual teaching is done in then present. Once the teaching has been done, it becomes past.

An event can be in the future but it fails to be in the present or the past. An event in the present was once in the future and will automatically retreat into the past.

Time as a duration and as an instant of measure can be applied in time as a passage. Time as a duration is a measure of a period from one point to another point of time. For

example, from the year 1940 to the year 1970 is duration of 30 years (Knight, 1998, p.3).

Both 1940 and 1970 are instances of time.

In a classroom situation, we propose that if a lesson starts at 8.30 am and end at 9.30 am, the time is one hour, and both 8.30 am and 9.30 am are instances of time.

4.4 Time and Change.

Time and change are intimately related; things change in time and change is impossible without time (Crane, 1998, p.196). Change in an object can be defined as the object having properties at one time and no properties at another time (Ibid). Aristotle stated that time is simply as measure of change (Ibid.p197). In Isaac Newton's view, "Time is not reducible to change but it is the container in which change occurs" (Ibid). There could never be a period of empty time without change because nothing could account as evidence for it (Ibid).

From the above, change can only be understood in terms of time. In a teaching situation, we suppose ,change of behavior in the learners can understood in relation to time when the behavior was not shown because no learning had taken place and at the end of time when behavior is exhibited as a result of having learnt what has been taught.

4.5 Dimension of Time

Here time is considered as the fourth dimension of space-time continuum (Crane,1978,p199).The three main dimensions of up-down, left-right and forward-back can not exactly locate an object without time (Ibid.p.202). For example to answer the

question: “Where did you get your degree?” requires time as a fourth dimension to be exact. The answer to the question could be, “At the University of Nairobi.” This is vague because it does not have the dimension of time. The University of Nairobi can be located geographically using three dimensions of longitude, latitude and altitude. To be exact, time dimension is added. For example, “I got my degree at the University of Nairobi and graduated on 26th November 2001”. This is exact and the person’s position could be located with the highest degree of accuracy.

4.6. Conclusion

Time is a mystery whose manifestations provide some reality to the universe. Without time the universe could not, somehow, exist. Philosophers discuss time as a dimension of the universe.

The next chapter deals with time considerations in pedagogy.

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CHAPTER 5

5.0 TIME CONSIDERATIONS IN PEDAGOGY

5.1 Introduction

This chapter reviews time in a teaching environment. In doing this, the term pedagogy is defined and adherence to timetable is presented as an integral part of time management.

5.2 Pedagogy

Pedagogy can be defined as science of teaching (Olela and Bennaars, 1993, p.4). Macmillan (2002, p.1045) defines pedagogy as the science, which deals with methods and principles of teaching. It stands for both methodology and theoretical orientation to the art of teaching (op.cit. p.66f). In this research, pedagogy and teaching are used interchangeably.

In teaching, learning is supposed to occur and the word “teaching” denotes action undertaken with the intention of bringing about learning to another (Dunkin, 1987, p.15). Teaching entails face-to-face encounter in an atmosphere conducive to bring about learning (Ibid).

Authorities agree that teaching requires philosophy. Phenix (1961, p.40) emphasizes this by saying, “There is no aspect of education that directly leads to the central philosophical problem than the teaching process”. The same view is suggested by Knight (1988, p.152) when he supports this conviction by saying, “Teaching is fraught with deep meanings

than lie on the surface”. Nsubuga (ud., p.9) adds weight to the same by saying, “There is no worker whose practice is affected by philosophy or lack of philosophy than a teacher”.

Although philosophy is highly supported in teaching, some misgivings as to what pedagogy is all about can be discerned. Barrow and Woods (1975, p.173) say that teaching is not a philosophically interesting concept since it is a polymorphous term and does not perplex one to take the initiative to research it. To give tacit support to this, Olela and Bennaars (1993, p. 66) say that the term pedagogy is not widely used by educationists and one of the pioneer books to be written on it was authored by J. A. Pasmore in 1980.

Some authorities feel that teachers are ignorant of education. According to Bennaars (1993, p.69), teachers have failed to educate the learners in the true sense of the word implying they are not conversant with what education is.

What is the pedagogical orientation of a teacher who teaches with philosophy at the back of the mind? According to Palmer (2003, p.376f), such a teacher pays attention to the pedagogy of the soul and does not bend to the forces of deformation around and within us. They respond to the soul’s calling, which to Christians may be spirit or inner teacher (Quakers), or true self (Trappist monks), or identity and integrity (secular humanists), or individuation (depth psychologists).

The brief literature above shows pedagogy is an area worth study. This is why we have decided on time as a metaphysical determinant to look at it.

5.3 Time Management in Pedagogy

What is time management? How is time managed in pedagogy? Do teachers budget time?

According to Mullins (2002, p.236), time management is a systematic step approach to using time effectively. In a school situation, we deduce it involves planning and adhering to timetables. The effectiveness of a worker is measured by how they keep time by performing a task and the frequency at which they absent themselves from work (Ibid. P.234).

In management, time requires forethought. Like air, it is usually taken for granted (Kabwegyere, 19774; p.1). In a school situation, time for teaching each subject is provided by the ministry responsible for education. What a school does is to implement what has been approved. Teachers are saved time of deciding on how much time a subject should be allocated on the timetable.

In managing school time, problems come about when individual teachers are not sensitive to the unique characteristics of time. Time is a unique resource, which cannot be rented, or hired, or bought (op. cit. p.235). It is impossible to obtain more time since the supply of time is totally inelastic (Ibid). Time is totally irreplaceable and every activity requires it (Ibid).

Time scheduling or timetabling is a schools systematic way of managing time (Ukeje, Akabogu and Ndu, 1992, p.300). Teachers are timetabled for school teaching according to their teaching specialization and experience (Ibid). Assigning teachers to teaching subjects is normally done in staff meetings or by school heads in line with the teacher's

posting letter to the school.

Every school has a master timetable, which contains all the names of the teachers and the subjects taught, including all other activities such as games, clubs (Ibid. Pp.300-301).

From the master timetable, two important timetables are extracted: teacher's personal timetable and class timetable (Ibid. p.301). A teacher's personal timetable is one of their teaching records and they must be ready with it (Ibid). For teachers who are heading classes as class masters/mistresses they are supposed to have a record of their class timetables (Ibid). For efficient monitoring of school time, copies of timetables are put in convenient places and in the heads office (Ibid). The head of an institution can use a timetable to grant a teacher leave or advise the teacher to take leave when they have no workload or when the workload is less (Ibid. P.303). After the leave, effort is made to make up for the lesson(s) not covered and it is the responsibility of the head of an institution to ensure that this is accomplished (Ibid. P.304).

In the above discussion on time relating to pedagogy, time is observed as manifested in clocks, timetables and calendars. This is what is referred to as chromos in chapter 4.

When a teacher fails to adhere to teaching time, the school head is authorized to write a letter to the employer (Ibid). By using the letter from the head of the institution, the employer can deduct the teacher's pay on the days they were absent or interdict the teacher. The employer has also the right to terminate a teacher's employment if it is found that they don't spend time teaching (Ibid).

5.4. Conclusion

This chapter confirms the concern of schools in ensuring that time is spent for the benefit of learners. Time management in schools focuses on learners and it is the responsibility of teachers to make this a reality.

The next chapter deals with reason.

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CHAPTER 6

6.0 REASON

6.1. Introduction

This chapter considers reason as the integrative phenomenon. It is a philosophical tool that integrates what has been discussed in the previous chapters with the preceding ones. Reason is posited to cement the relationship between time and pedagogy in the metaphysical realm. Without reason, time and pedagogy are just separate entities. Metaphysical reality of time is internalized within human mind through reason. Reason is explained in the context of Plato's analogy that reality is in the mind and can be reached through reasoning (Collier's Encyclopedia, 1965, Vol. 18, p. 705).

6.2 Definition of reason

In contemporary English, reason is defined as the human ability to think in an intelligent way, make sensible decisions and form clear judgments (Macmillan, 2002, p. 1176). In every day speech, reason is equated with intelligence. It is likely that a very reasonable person must also be a very intelligent person. Could we assign rationality, or intelligence, or both, or something else, to people who have difficulty with class work but excel in scientific or social fields? Albert Einstein who studied the reality behind space and time, and Winston Churchill who was one of the greatest statesmen of Great Britain were slow developers and both hated school (Caplan,

2005, p. 6).

In philosophy, reason and intelligence are related but not similar. In philosophy, reason can be defined as divine part of the soul (Patrick, 2001, p.242). According to Chukwu (2002, p.73), reason is allied with intellect but it is not intellect, it is something much more. Karl Jaspers, quoted by Chukwu(2002, p. 73), says reason is something philosophical, intangible and it is more than intelligence. It is infinitely greater than intelligence and it is always seeking for the real and the only unity.

6.3. Reason in philosophy

Philosophy defines reason, as indicated above, as the divine part of the soul.

According to Chukwu (2002, p.73), rationality is the most significant part of the mind. It is the power of the mind that breathes life into philosophy (Ibid. p. 74).

Philosophers do not comprehensively know what the mind contains. Bennaars (1993, p.8) asserts that the human person is identified with the mind, the soul and the body.

The mind deals with reasoning and judging; the soul is responsible for moral decisions, and the body deals with the person's physical capacity to act (Ibid).

Is reasoning a passive or an active enterprise? Is reason physical or mental, or both?

The mind, which deals with reasoning, has psychic powers that may make one know what is happening many kilometers away (Matthews, 1997, p.2). These psychic powers may make one effect motions, for example, moving objects by thinking about them (Ibid). The term telekinesis or psycho-kinesis is applied to the ability to move objects with the mind (Ibid. p. 24). There is a society for psychical research, which

was founded in London in 1882 by a group of scientists and mediums (Ibid. p. 44).

The following philosophers have been the presidents of the society: Henri Bergson, William James, Hans Driesch, Henry Sidgwick, F.C.S. Schiller, C.B. Broad, and H.H. Price (Hick, 2003, p. 125). Scientists who study telekinesis find that their cameras and electric equipment keep going wrong, believing that telekinesis power sets up powerful electric fields which make equipment break down (op. cit. p. 44)

Reason is always in motion for it is never satisfied with its quest for the truth (Chukwu, 2002, P. 75). Reason seeks the real and only unity (Ibid). The stoics regarded the ideal person, as one who is able to suppress emotions and passions through reason, and such a person is able to discover knowledge, which makes them to be in harmony with the cosmic reason, or Logos (Ibid). Reason is like a blade, which must be sharpened to sustain philosophical activity. Reason is whetted with thoughts.

Ochieng'- Odhiambo (1997, p.2), quoting Hegel, says that reason is a substance as well as an infinite power and it is the basis of natural and spiritual life; it is what sets materials in motion. Emmanuel Kant maintained that God, freedom and immortality are postulates of practical reason although they cannot be demonstrated by theoretical reason (Collier's Encyclopedia, Vol. 13, 1965, p.744). Chukwu, (2000, p.77), quoting Hegel, says that reason is capable of integrating the complete picture of man and the world into a unified closed system. Hegel's philosophy presupposes the universe as an organic whole, consisting of parts ordered in accordance with rational principles.

6.4. Conclusion

Reason is paramount in any philosophical enterprise. In the foregoing discussion, an attempt is made to show the importance of reason in philosophic discourse. Reason is physical, psychical and divine.

In the next chapter, reason is shown as what links time with pedagogy. Time is the foundation and pedagogy is the blocks, which reason cements to make a coherent whole.

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CHAPTER 7

7.0 TIME AND PEDAGOGICAL INCLINATION

The themes so far expressed in this paper are merged to argue for time as a metaphysical determinant of pedagogy. It is here where we contribute to the research.

Using the origin of the universe as the basis, all matter are related to one another. Human beings are matter and they are related to other matter within the cosmos. One obvious similarity observed in matter is that they are made of atoms.

Matter is related to one another directly or indirectly. Atoms account for direct interrelation of matter. Matter subjected to mechanical laws behaves the same. An example of indirect relationship is thinking about an object and causing changes within that object, as in the case of telekinesis.

Our minds are separated and mutually insulated only at conscious and pre-conscious levels, but at the deepest level of unconsciousness we are constantly influencing one another (Hick, 2003, p.127). It is at this deepest level where metaphysical realities are exhibited. At this level reason concretizes concepts. Concretization is enhanced through intellectual discourse, which stimulates the mind to be in harmony with movements within the cosmos. Our Galaxy moves consistently and this movement is harmonious with other cosmic bodies. As Plato posits, reason makes an individual to reach the ultimate. The ultimate is the cosmic harmony. It may be called the ABSOLUTE.

The nature of every object in the universe is to strive to be in harmony with the cosmos.

The harmonious co-existence is attributable to atoms. The order in the Solar System resembles the order in the atoms (Chukwu p, 91). The movements of objects of the solar system (Planets, asteroids) influence human beings through their living cells. This harmony is expressed in definite patterns like routine behavior such as that of Emmanuel Kant in keeping time. All the objects imitate the order in the cosmos.

Since all matter in the cosmos are in harmonious relationship with each other and all movements are done according to definite patterns, time consciousness is a natural phenomenon. The universe is an ordered system and this order is metaphysical since the reasons behind the order at the movement, are not empirically provable but are matters of speculations. Metaphysics determines time according to cosmic laws, which may be mechanic or divine as Chukwu says. What human beings do is to imitate.

Human beings imitate metaphysical time by making calendars, clocks and timetables. These imitations are the face value of time .The deeper meaning of time, which is kairós, lies in the cosmos and human beings can reach it through reasoning. Reasoning affects the whole human body and harmonizes the mind with the ultimate. Once the harmonization is perfect, human behaviour becomes automatic and may be very difficult to reverse. When external circumstances act in opposition to the well established harmony, the individual may opt to avoid the circumstances or face them head-on .An analogy can be drawn from the revolution of the earth. Suppose an object blocks the earth's revolutionary orbit, what would the earth do? The earth, we suppose, is not a reasoning entity and, therefore, cannot find a way to dodge the object and to continue with its revolution. The earth will face the object blocking it head-on. Human beings are

rational animals, so they can move away when faced with confrontation, which undermines their conviction.

When reason is not used in learning about time as manifested in clocks, calendars and timetables, the concept of time becomes superficial. It does not strike human psyche to stimulate the mind to harmonize the concept with the cosmos. The behaviour formed as result is not concrete and does not reach the unconscious where the relationship with the ultimate is guaranteed. Time that does not strike human psyche in harmony with cosmos is time in a non-metaphysical sense. It is time that does not change behaviour in line with an activity.

An activity like pedagogy requires a metaphysically determined time within an individual teacher. Pedagogy is the overall teaching enterprise. A metaphysically determined time can control pedagogy. When a teacher is metaphysically time conscious they become propelled to teach. A teacher who is metaphysically time propelled will be a happy person and will enjoy their work. Time determines pedagogy as an absolute reality. Just as philosophers have been concerned with a single substance, which is the essence of the universe, time is the essence of pedagogy. Time in metaphysical sense makes a teacher focused and determined to accomplish a task.

Once a teacher has a teaching task before them, the mind moves fast and maps the duration of performing the task against the time available. This happens in a flash like the movement of light. If the task cannot be accomplished within the time available, the mind gets stressed, just as Sinha says, "If you feel stressed chances are strong that it is because

you do not have enough time to do what you want to do up to the level of your commitment.”

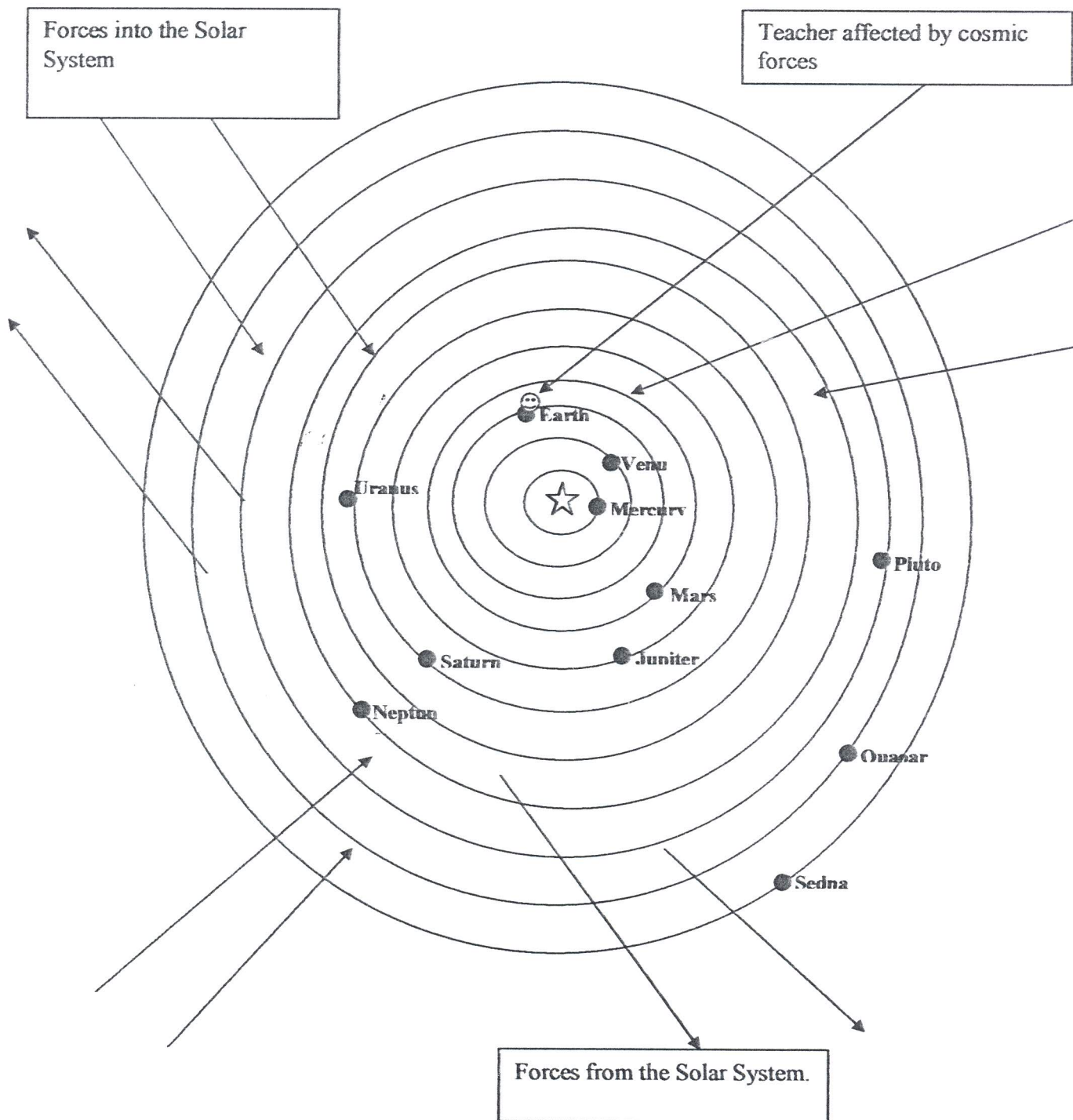
The diagram on the next page shows a teacher within the solar system.

The teacher is supposed to be in harmonious relationship with cosmos. Time moves as the cosmic bodies move. The teacher’s mind moves unconsciously with the cosmic bodies. When this happens teaching becomes enjoyable and the productivity is enhanced.

Is the teacher aware that such harmonious relationship could exist? Is the teacher who is aware of such a harmonious relationship different from the one who is not aware? How can the teacher be made aware of this relationship? What is the rationale behind the Solar System model?

In life a lot of things affect us but we are not aware of the reasons behind them unless we stop, reflect and seek expert opinion. Take, for example, that you are in a room at night and the room is brightly well lit. When you move out in the dark, your eyes won’t be able to see well for a moment. After a few seconds you find your vision getting accustomed to the darkness and you are able to see a bit clearer. Suppose there is another person who experienced the same and this second person decided to think about the issue by reasoning, asking questions and consulting others who are thought to be experts. When the second person has gathered some knowledge he might come to the awareness that when one’s vision is frequently subjected to bright and dim light for a considerable period of time, their vision could be affected permanently.

Teacher within the Solar System



This second person will have a different view of light and can take precautionary measures, if any, to keep their vision intact.

The scenario will apply to the teacher who reasons about time in the realm of metaphysics. Such a teacher will be more aware of time and will endeavour to keep it. Such a teacher knows time cannot be set backward or forward. Only human imitations of time like clocks, calendars and timetables can either be set back or forward. A teacher who is aware of time, as a metaphysical determinant knows that time is irreversible and irreplaceable. Even if such a teacher misses a lesson due to unavoidable circumstances, they are aware that the time for the lesson can never be recovered. If a make-up for the lesson is done; let say during games time, it is not a make-up per se but an interference with games timetable. If the learners are made to learn the lesson at night, it is, therefore, an interference with night activities such as sleep or preps, which are scheduled to take place during that time. Teaching at odd times not scheduled is just interfering with time not compensating for lost time. It should be noted that time can neither be interfered with nor compensated. Suppose the earth stops its revolution round the sun for a year with the intention that it will double it's revolutionary speed the following year so as to go round the sun twice in a year, covering the lost year! We posit all activities done by human beings on the earth, so to speak, will be in disarray.

Recovering lost time is human invention. It is incompatible with cosmic harmony. It does not rhyme with time in its metaphysical realm. It is done when the mind is not made by individual to delve in intensive intellectual discourse with time with the view to seeking ultimate reality.

By using the Solar System as a model, we bring the discussion of cosmic influence to human experience. We consider the Solar System, the Galaxy, our universe. At the same time we take note of other universes outside our universe. We acknowledge the effects of other cosmic bodies outside our Galaxy. There are many other galaxies in the universe but we have only picked the Solar System, which contains the earth on which we live. Everything in the universe influences one another through cosmic forces, which could be in the form of magnetic or electric fields. Cosmic forces that are within and without the solar system affect human beings. The most puzzling fact to philosophers is the harmony in which these forces work. The movement of all cosmic bodies is not haphazard. The earth takes 365 1/4 to go round the sun. The farthest planet (planetoid), Sedna, which is 12,000,000,000,000 km from the earth, takes 10,500 years to go round the sun. The orderly of time in the universe and in the solar system, in particular, influences human time. Human time within the living cells synchronizes with it to result into a harmonious behaviour of timekeeping.

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CHAPTER 8

8.0 SUMMARY AND CONCLUSION

8.1 Introduction

This chapter summarizes and concludes what has been so far discussed in this research. In the summary, we explain our philosophical stand on time as a metaphysical determinant of pedagogy. In the conclusion, a mechanism to implement the theory that time is a metaphysical determinant of pedagogy is sketched.

8.2 Summary

We agree with the stand expressed by different authorities that time is beyond human control. Time is metaphysically absolute and it acts on its own. What human beings do is to imitate time in form of clocks and timetables. Imitating time genuinely harmonizes individual teacher's mind with cosmos. Once harmony with the cosmos has been well established, the teacher's behaviour in adhering to time becomes automatic and very difficult to reverse.

Teachers who do not adhere to time have not engaged their mind in thinking and reasoning about time. It is reason, which is posited to bind time with pedagogy in metaphysical realm. Such teachers think about time superficially, just as it is manifested in clocks and timetables, but their psyche lack time influence. For such teachers to work, they are to be closely supervised because time is from without.

Pedagogy is a human activity performed within the universe. Forces within the Solar System and other parts of the universe affect it. The effect of cosmic forces bring harmony and pedagogy is to be in harmony with the cosmos in a metaphysical sense.

8.3 Conclusion

Time is enigmatic. Philosophizing about it gives awareness on how it influences human activity. Philosophy also makes people to observe it. Time is challenged with reason. Reason is both physical and psychic. Time is defined in both physical and psychical realms. In psychical realm, time is a metaphysical paradigm and it is able to determine events. It determines pedagogy. Time is metaphysically absolute and it has a driving force behind teachers' professional commitment to teach.

The practical implication of the theory of time as a metaphysical determinant of pedagogy can be achieved through philosophizing about time. Meditating about time and analyzing various aspects of time make the mind to internalize its concepts in a psychical way. Thinking and reasoning about time stimulates the mind to be inclined to an activity. When thinking and reasoning is done on pedagogy, the individual involved, who is a teacher in this context, gets irreversible behaviour as a result of this. The irreversibility in behaviour imitates cosmic harmony, which is metaphysically real and orderly.

The study suggests inclusion of "philosophy of time" in teacher education curriculum so as to philosophically orientate educators and educationists in time management. This will enhance good performance in examinations by students.

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