

## On the Dangers of Inert Ideas in Education: Reflections on Alfred North Whitehead’s *The Aims of Education and Other Essays*

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### Abstract

*In this paper we concur with Alfred North Whitehead that education with inert ideas is harmful and useless to the student and the society at large. Inert ideas constitute dead knowledge, that is, knowledge that does not relate to one’s day-to-day experiences nor to knowledge gained from other disciplines. Knowledge acquired by students should have an impact on their lived existential situatedness and it should have a link or correlation with knowledge gained from other disciplines. How do we avoid inert ideas in education? Whitehead admonishes us to keep knowledge alive. This, to him, is the central problem of education. We argue in this paper that in an age dominated by fake news, alternative facts and deep fakes, critical thinking and self-examination are no longer options in the process of education. Thus, the traditional banking system of education is outmoded and should be replaced by the cultivation of critical thinking skills in the child. To do this we must take seriously Whitehead’s two commandments of education; the rhythm of education which implies giving the child knowledge appropriate to their age; and the trilogy of freedom-discipline-freedom.*

**Key Words:** Whitehead, Education, Inert Ideas, self-examination, Critical Thinking, rhythm of education, freedom, keeping knowledge alive, discipline

### Introduction

Alfred North Whitehead devoted his life to education because of his conviction that “in the conditions of modern life the rule is absolute; the race that does not value trained intelligence is doomed” (Whitehead 1967, p.14). As such, illiteracy is not an option in these times since education has to develop in the child the abilities, attitudes and other forms of behavior which are of positive value to the society where he lives. That’s why Maria Montessori (1966) argues that education should help the child develop confidence in their emerging abilities so as to offer them the opportunity to gain independence in daily tasks. For her, every adopted system of education should help students to bring out their maximum potential. In order to get ready for the responsibilities and privileges of life, Molagun (2005) believes that one must see education as the means through which individuals are equipped for life which involves exposure to society, approved knowledge, skills, attitudes necessary for human beings to live comfortably and contribute meaningful to the development of the society. Thus, “the purpose of education is to enable humanity to develop and to improve: for man can only become man by education” (Kant 1960, p.6).

Etymologically the word education originates from two Latin words: “*educere*” and “*educare*”. The former is translated as to “rear” or to “train”. The latter, is translated as “to lead out” or to “bring out”. We can infer from the etymologies two definitions of the word education. From the first one, education is seen as the “rearing or bringing up of children through character training and discipline so that, they live up to some standard set by the society” (Tambo 2012:3). Considering the second etymology, education is seen as a process that “involves the provision of conditions that will help the child’s nature to unfold; that is, the conditions that will help to bring out the best in the child” (Tambo 2012:4). Here, education consists of a constant unveiling of reality with the aim of realizing potentials. An educated person is, from this perspective, one who has undergone a series of life’s experiences and has acquired a wealth of wisdom since education never ends. To educate therefore implies the process through which one goes on through life irrespective of time and place.

Education is, thus, the sum total of a person's learning experiences during his or her own lifetime. Education is a means through which people understand themselves and their environment (Ngalim 2014).

For Whitehead, “education is the acquisition of the art of the utilization of knowledge” (Whitehead 1967, p.10). In this case education does not consist in simply banking knowledge in student's minds. Paulo Freire (2000), for instance, warns against the banking system of education because this is a method of educating in which the scope of action allowed to the students extends only as far as receiving, filing, and storing the deposits. In this case, education becomes the act of depositing, in which the students are the depositories and the teacher is the depositor. All the teacher needs to do is to sit in his room or laboratory and prepare his lesson notes and his role in class is to pour it out on students. This is often done in many ways. We find some teachers who spend their time reading and the students spend theirs copying, other teachers who have the whole material inscribed in their heads and they sing the same song year-in year-out and the students do the copying. In this system of education, instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat then pour out in tests and exams. The only opportunity the students have is to become collectors or cataloguers of the things they store. Thus, Friere thinks that knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other. In line with Freire, Whitehead insists that “there is only one subject matter for education, and that is, Life in all its manifestations” (Whitehead 1967, p.10). Thus, education should aim at producing “men who possess both culture and expert knowledge in some special direction.” For him, “Culture”, is “activity of thought and receptiveness to beauty and humane feeling” (1967, p.1). Whitehead's philosophy of education<sup>1</sup> emphasizes the idea that a good life is most profitably thought of as an educated or civilized life. Thus, the most valuable intellectual development is self-development. For whitehead, as we think, we live. Consequently, improving our thoughts entails a progress in our lives.

### **Critical Thinking: The Cure to Inert Ideas/Dead Knowledge in education**

Whitehead emphasizes that in education, we must remember that a “pupil's mind is a growing organism ... it is not a box to be ruthlessly packed with alien ideas” (Whitehead 1967, p.47). For him, it is the purpose of education to stimulate and guide each student's self-development. The task of the educator is not simply to insert into his students' minds little chunks of knowledge. In this way education aims at producing not merely well-informed people but those who can be integrated in the society full of cultural values and true knowledge. Dewey (1988) argues that education should make it possible for pupils to cultivate virtues such as kindness, honesty, patriotism, toleration and bravery that are necessary for social interaction and cohesion. Schools nurture good character by facilitating the acquisition of social relations between teachers and their students. Pupils learn to trust and live in mutuality with the teacher thanks to the exemplary character the teacher portrays. Pupils need more of witnessing than verbal articulation. The personal exemplification by the teacher of values, virtues and the integrity of the potentialities he seeks to be developed in the pupil would facilitate character formation. Children cannot be taught how to behave just by passing on a handful of moral principles and rules. They have to see these principles concretely lived by the teacher. The teacher's whole being exemplifies the truth. In this light, Martin Buber contends that:

Only in his whole being, in all his spontaneity, can the educator truly affect the whole being of his pupil. For educating characters you do not need a moral genius, but you do need a man who is wholly alive and able to communicate himself directly to his fellow

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<sup>1</sup>Whitehead's philosophy of education was fully developed in London, where Whitehead mainly worked in education, serving as Dean of the Faculty of Science at Imperial College. It was equally within this period that whitehead published his writings in education. One of the master pieces of Whitehead's philosophy of education is his famous book, *The Aims of Education and Other Essays* published in 1929.

beings. His aliveness streams out to them and affects them most strongly and purely when he has no thought of affecting them (Buber 2004, p.125)

The educator merely needs to be present and live his life in the very manner in which he wants his pupils to live. Nel Noddings (1992) further explains the role of the educator and terms it modeling. The influence of the teacher is ascribed not to his superior learning, but to his witnessing. As such, the educator “must be truthful as he teaches the truth; honest as he instills honesty; be just as he teaches justice and loving as he teaches love” (Noddings 1992, p.137). The young see in their teacher, a representation of the world. And so, the teacher educates not simply by what he teaches, but also from how he lives and how he is present to his pupils. At this point, Whitehead warns that in educating a child we must keep in mind that:

Scraps of information have nothing to do with it. A merely well-informed man is the most useless bore on God’s earth. What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art. We have to remember that the valuable intellectual development is self-development (Whitehead 1967, p.10).

From the above passage it comes out that education aims at forming and training a child to activity of thought. Students then must be trained to think for themselves. Here we recall the motto of the Enlightenment as stated by Kant: *Sapere Aude*, meaning *dare to think*. Daring to think for oneself by liberating oneself from self-imposed imprisonment to prejudices, unjustified beliefs and uncritically accepted assumptions and presuppositions. This, of course, smells like the Socratic legacy of Athens, consisting in Socrates calls for self-examination, self-evaluation and eventual self-knowledge. All of these culminating in his dictum “the unexamined life is not worth living. In Plato’s *Apology* Socrates says:

If I tell you that this is the greatest good for a human being, to engage every day in arguments about virtue and the other things you have heard me talk about, examining both myself and others, and if I tell you that the unexamined life is not worth living for a human being, you will be even less likely to believe what I am saying. But that’s the way it is, gentlemen, as I claim, though it’s not easy to convince you of it (Plato: 38A).

The capacity to think for oneself is a much needed good if we are to develop that teachers need to instill in their students. In an age of *fake news and alternative facts and deep fakes*, it is urgent to teach our children the capacity to be able to think clearly, critically, rationally, while seeking the logical consistency and connection between ideas.

The banking system of education required that the child simply accepts and memorizes what is learned. This is the principal way through which students imbibe inert ideas uncritically. Thus, critical thinking skills should be instilled into the child, for the child to be able to rigorously question ideas and assumptions rather than simply accepting and memorizing them. But what is critical thinking? Michael Scriven and Richard Paul (1987) explain thus:

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness.

It entails the examination of those structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue; assumptions; concepts; empirical grounding; reasoning leading to conclusions; implications and consequences; objections from alternative viewpoints; and frame of reference. Critical thinking — in being responsive to variable subject matter, issues, and purposes — is incorporated in a family of interwoven modes of thinking, among them: scientific thinking, mathematical thinking, historical thinking, anthropological thinking, economic thinking, moral thinking, and philosophical thinking.

The inevitable conclusion from the text above is that critically thinking is necessary because as *we think, we live* and as such, the more we improve our thoughts, the more we improve our lives. Hector Amezcuita holds that “a root cause of major human problems is the fact so many of us learned *what* to think instead of *how* to think” (Amezcuita 1997: xvii). His explanation is fascinating:

Knowing *how* to think involves conscious awareness of truth, learning new ways of thinking and making the decision to be very careful of what we think. Knowing *how* to think liberates us to use our total freedom of conscious choice. Instead of being dominated by unwanted thoughts that arise in the absence of something better, the mind can easily be trained to think only what we allow it to think (Amezcuita 1997:xvii).

What this means basically is that we should exercise our ability or what Amezcuita calls ‘freedom’ to choose our thoughts. Our everyday experience shows that every time we want to stop thinking about something we do not like, we cannot easily change that thought. Why is that? Because our educational system did not train us early on to be used to exercising our unlimited freedom of choice to determine our thoughts. We simply learned to think automatically, spontaneously. Education should rather train us to start selecting our thoughts and managing them. Thinking correctly helps us, as Whitehead says, to:

(i) to live, (ii) to live well, (iii) to live better. In fact the art of life is first to be alive, secondly to be alive in a satisfactory way, and thirdly to acquire an increase in satisfaction. It is at this point of our argument that we have to recur to the function of Reason, namely the promotion of the art of life (Whitehead 1958, p.8).

For Whitehead, education has to impart an intimate sense for the power and beauty of ideas coupled with structure for ideas together with a particular body of knowledge, which has peculiar reference to the life of the being possessed by it (Whitehead 1967: 8). Corroborating this point, Martha Roth opines: “The purpose of education is to stimulate and guide self-development and the teachers should be alive with thoughts” (Roth 2012:1). Confirming this assertion G. Brooks and M. Grennon State:

Education never starts with a tabula rasa situation. On the contrary: education always has to take into account the developmental stage and individually varying earlier educational processes of the single, unique pupil. It must never be forgotten that education is not a process of packing articles in a trunk. Such simile is entirely inapplicable. It is, of course, a process completely of its own. Education instead has to enhance learning processes that are active processes of integrating new ideas into the already existing, idiosyncratic system of concepts (ideas) (Brooks & Grennon 2005, p. 72).

The above citation highlights the fact that education is a process of acquiring knowledge and assimilating new experiences. It is further explained as a process of reciprocal accommodation of the new impressions and

already acquired ideas that build up the existing cognitive system. In this light, Paul E Johnson defines ‘knowledge’ acquired through education as that inferred capability which makes possible the successful performance of a class of tasks that could not be performed before the learning was undertaken (Johnson 1838).

Taking all of the above in to consideration, Whitehead warns us that in training a child to activity of thought, we must beware of filling the child’s mind with inert ideas. According to Alfred North Whitehead “inert ideas” constitute information that the mind receives without making good use of it. These are ideas that are not connected to other ideas. For him, education consists in training students with practical knowledge. For this purpose he says:

In training a child to activity of thought, above all things we must beware of what I will call “inert ideas” that is to say, ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combinations(...). Education with inert ideas is not only useless: it is, above all things, harmful (...). Every intellectual revolution which has ever stirred humanity into greatness has been a passionate protest against inert ideas. Then, alas, with pathetic ignorance of human psychology, it has proceeded by some educational scheme to bind humanity afresh with inert ideas of its own fashioning (Whitehead 1967, pp. 1-2).

For Whitehead, there must be a connection between subjects taught in class so as to avoid inert ideas. Such inert ideas could consist of disjointed facts and big, vague concepts. In other words, schools that emphasize isolated bits of information and schools that emphasize ungrounded critical thinking and problem solving are committing a similar error. Yet a school that devotes enough time and interest to cultivating critical thinkers produces a society in which its members, as Richard Paul and Linda Elder (2008) say, raise vital questions and problems, formulating them clearly and precisely; gather and assess relevant information, and using abstract ideas to interpret it effectively come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards; think open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and communicate effectively with others in figuring out solutions to complex problems. Critical thinking, they conclude, is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities and a commitment to overcome our native egocentrism and socio-centrism.

Above all else in his educational writings, Whitehead emphasized on the importance of imagination and the free play of ideas. In his essay *Universities and Their Function*, Whitehead links imagination to facts for a better comprehension of the world:

Imagination is not to be divorced from the facts: it is a way of illuminating the facts. It works by eliciting the general principles which apply to the facts, as they exist, and then by an intellectual survey of alternative possibilities which are consistent with those principles. It enables men to construct an intellectual vision of a new world. (Whitehead 1978, p.12)

It is thus clear that for Whitehead bits of disconnected knowledge are meaningless; all knowledge must find some imaginative application to the students’ own lives, or else it becomes so much useless trivia, and the students themselves become good at imitating facts but not thinking for themselves. In this regard, a learner who studies a wide variety of subjects without their proper mastery of each is victim of “inert ideas” leading to the acquisition of dead knowledge. Hence, there is a need to dwell on Whitehead’s commandments of education.

## Two Educational Commandments

To guard against inert ideas, Whitehead proposes two educational commandments:

- a) Do not teach too many subjects
- b) What you teach, teach thoroughly (Whitehead 1967, p.2).

Teaching too many subjects actually has as disadvantage; the fact that the teacher would only teach small parts, not everything there is to teach in such courses. Secondly on the part of the students, there will be a passive reception of disconnected ideas not illumined with any spark of validity. The admonition given by Whitehead is this:

Let the main ideas which are introduced into the child's education be few and important, and let them be thrown into every combination possible. The child should make them his own, and should understand their application here and now in the circumstances of his actual life (Whitehead 1967 p.2).

What this means practically is that from the very early beginnings of a child's education, they should experience the joy of discovery, seeing how general ideas learned at schools lead him to understand various events in his life. Also, Whitehead maintains that "theoretical ideas should always find important applications in the child's curriculum" (1967: 5). This leads us to the main problem of education.

### The Central Problem of Education: Keeping Knowledge Alive

The central problem of education, for Whitehead, consists in keeping knowledge alive, preventing it from becoming inert. This depends on four main factors, namely; the genius of the teacher, the intellectual type of the pupils, their prospects in life, and the opportunities offered by the immediate surroundings of the school.

Teachers should be alive with thoughts. It is not enough to ask students to take knowledge and use it. Teachers should import information in a way that encourages students to turn what could be (in other hands and circumstances) inert knowledge into active, vibrant and engaged tools (Roth 2012). Every teacher always has an effect on the students, whether he intends to or not. Teachers, especially in universities should not only strive to impart knowledge, they should strive to create knowledge. Remember the mission of a university to create and disseminate knowledge. From a teacher who is alive with thoughts, students should be able to hear something in the classroom, or witness something in the laboratory that will not yet be found in any book or article because it is new scholarship that is being developed and by the teacher (in partnership with the students) it might be something tentative, inchoate, innovative, revolutionary, even wrong. Yet, it will be exciting for both the teacher and the students, who are on the verge of creating new knowledge, in the laboratory or classroom or library (Roth 2012). Teachers who possess deep knowledge, should be willing and eager to impart that knowledge, they should demand from the students the same degree of dedication and commitment they ask of themselves.

The students are alive. This is why Whitehead maintains at the beginning of his address that the aim of education is to stimulate and guide their self- development. At all times, teachers should remember that they are dealing with human minds and not with dead matter. This awareness on the part of the teacher will facilitate "the evocation of curiosity, of judgment, of the power of mastering a complicated tangle of circumstances, the use of theory in giving foresight in special cases" (Whitehead 1967:5). Without this awareness, the teacher can, without meaning to, pump into the students mind a certain quantity of inert knowledge. Whitehead uses the example of quadratic equations to illustrate his point. Now, the child knows how to solve a quadratic equation, but what is the point of teaching the child to solve a quadratic equation? The traditional answer given to this question flows like this: the mind is an instrument; you first sharpen it, and then use it: the acquisition of the power of solving quadratic equations is part of the process of sharpening the mind (Whitehead 1967). The

problem with this answer, Whitehead holds, is that it portrays a most fatal, erroneous and dangerous idea that the mind is a passive instrument, like dead matter. The mind, however, is never passive, it is a perpetual activity, delicate and receptive responsive to stimulus. You cannot postpone its life until you have sharpened it. The mind is always active, and that's why Whitehead insists that students are alive, that they are not passive recipients of information but active participants in it. Students are the directors of their own educational experience. They choose their own field and the courses that will give them specialized knowledge within that field of study. Students equally choose those to supervise their work, they choose how deeply they wish to delve into specialized fields and how broadly they want to survey others. Whatever field of study they choose to understand reality, information will be presented to them, and to prevent this information from becoming inert or dead knowledge, they should work with teachers who are, as Whitehead says, alive with thoughts. From this perspective, it is imperative that students take active ownership of their educational experience, which is quite frankly, their process of self-development and empowerment. Thus, students should collaborate with their teachers knowing that no knowledge is trivial, useless or wasteful. This falls in line with what Neugebauer Otto says "No educational system known to man is capable of ruining everyone" (Cited in Roth, 2012 p.7).

However, Whitehead reminds us that there is no royal road to learning through an airy path of brilliant generalizations. Education is a patient process of the mastery of details, minute by minute, hour by hour, day by day (Whitehead 1967). In order to surmount this difficulty, Whitehead proposes a complete eradication of the fatal disconnection of subjects which kills the vitality of our modern curriculum. He maintains that the interconnectedness among subjects will enable the students to see the link that their knowledge has with other courses and with their lived experiences. When students are unable to see how one subject relates with others and with their day to day livelihood, learning becomes disconnected. As such, courses should be organized such that they form a coherent whole. The student should equally be treated as a whole, not a part, as an organism as Whitehead says. For Whitehead, there is only one subject matter for education, and that is life in all its manifestations. For this reason, there is a need for a mutual relationship among courses taught to students. But if

We offer children – Algebra from which nothing follows; Geometry from which nothing follows; Science, from which nothing follows; History from which nothing follows; a couple of languages, never mastered; and lastly, most dreary of all, Literature, represented by plays of Shakespeare, with philological notes and short analyses of plot and character to be committed to memory. Can such a list be said to represent life as it is known in the midst of the living of it (Whitehead 1967: 7)?

The answer, of course, is no. Whitehead warns that we should not divide the seamless coat of learning. What education has to impart is an intimate sense for the power of ideas, for the beauty of ideas, and the structure of ideas, together with a particular body of knowledge which has a peculiar reference to the life of the being possessing it (Whitehead 1967). Thus, students must be trained to have minds that are both more abstract and more concrete, such that they can easily integrate theory and practice for a more comprehensive growth.

Whitehead equally emphasized in the *Aims of Education* that our education system should cultivate in the student, a sense for style, that is, the aesthetic sense, based on admiration for the direct attainment of a foreseen end, simply and without waste. Whitehead believes that the love of a subject in itself and for itself is the love of style manifested in that study. Acquiring the sense of style is a very important achievement. An administrator with a sense of style hates waste; an engineer with a sense of style economizes his material; an artisan with a sense of style prefers good work. Style the ultimate morality of the mind (Whitehead 1967).

## THE RHYTHM OF EDUCATION

By the rhythm of education Whitehead seeks to express the idea that different subjects and modes of study should be undertaken by pupils at fitting times when they have reached the proper stage of mental development (Whitehead 1967). Before treating the various stages of mental growth of a child, Whitehead lays

bare the fallacies embedded in those generally accepted principles: the criterion of difficulty and the principle of necessary antecedence.

The criterion of difficulty is the view that easier subjects should precede harder ones. Whitehead argues that in life some of the hardest things come first because nature so desires and because of their essential values in life. Spoken language, for instance, is the first intellectual task that confronts the child. Here the child has to correlate meaning with sounds. It requires an analysis of ideas and an analysis of sounds. This is not an easy task, as any one of us who has learned another language much later on in life can testify. Yet, the infant does it, and the miracle of his achievement is inexplicable. But so are all miracles, and still to the wise they remain miracles. Another example in the education of the child is the learning of written language: the correlation of sounds with shapes. This is another great difficulty. Thus, it is not valid in all cases to argue for postponing harder subjects for later. Subjects should be taught to the child depending on their fitness, mental growth and necessity at their stage in life, not how easy or hard the subject is.

The principle of necessary antecedence on its own part is almost always true. It is impossible to read *Things Fall Apart* unless you can read. The danger of this principle is that it is accepted in one sense, for which it is almost a necessary truth, and that it is applied in another sense for which it is false. You cannot read the Bible before you can read, yet many children and many illiterate adults know parts of the Bible by heart with the help of the spoken word of their parents, teachers, pastors and priests. Whitehead concludes, rather harshly I think, that “the uncritical application of the principle of the necessary antecedence of some subjects to others has, in the hands of dull people with a turn for organization, produced in education the dryness of the Sahara” (Whitehead 1967, pp. 16-17).

### ***Stages of Mental Growth***

Whitehead holds that there are three stages of mental growth for every child; the stage of romance, the stage of precision and the stage of generalization. These correspond to Hegel’s division of progress into Thesis, Antithesis and Synthesis. The mistake in our educational system, Whitehead says, that the “pupil’s progress is often conceived as a uniform steady advance undifferentiated by change of type or alteration in pace” (Whitehead 1967, p.17). This, for him, is based on the “false psychology of the process of mental development which has gravely hindered the effectiveness of our methods” (Whitehead 1967, p.17). Life is essentially periodic; seasonal periods, yearly periods. There are also subtler periods of mental growth, with their cyclic recurrences, yet always different as we pass from cycle to cycle, though the subordinate stages are reproduced in each stage.

#### a) The Stage of Romance

For Whitehead, the *stage of romance* is the stage which involves an original first-step into intellectual inquiry. It can also be called the stage of “first apprehension”, of wonder and curiosity, and of first interrogative blending in the body and mind regarding a particular subject matter. At this stage, the student enjoys the freshness of inquiry into a discipline, namely, the positive feeling that one is about to embark upon the adventure of learning. The stage of romance emphasizes on the affective dimensions of learning, involving bodily feelings and emotions, be they positive or negative, for example, as in the case of fear, anxiety, or dread (Whitehead 1967).

#### b) The Stage of Precision

The *stage of precision* involves the analytic engagement with the specific principles of a subject-matter. Mainly, the stage of precision consists in the coming to conscious awareness of the conceptual divisions within a domain of investigation. Similarly, as Whitehead states, it stresses on the exactness of formulation (Whitehead 1967). In other words, the stage of precision is the stage of the development of specialized knowledge through

analysis, negation, critique, and selection, which, as Whitehead maintains, are intrinsic to the development of consciousness. The stage of generalization is the application of the specific conceptual divisions learned through the stage of precision, creatively modifying them into something new, and applying them to concrete fact. It is the stage of satisfaction and of aesthetic experience, namely, of the awareness of logical contrasts.

c) The Stage of Generalization

The *stage of generalization* involves the conversion of exclusions made in the stage of precision into contrasts. It involves the merging and the comparison of the feelings originally experienced in the stage of romance with the conscious awareness of the subject-matter attained through the stage of precision. The stage of generalization also leads to “a return to romanticism” (Whitehead 1967: 19) after the acquisition of a specialized knowledge, representing progress in learning. One of Whitehead’s main claims is the notion that education must be attentive to each of the rhythms of learning or stages of mental growth, and must not neglect any one of them in favor of another one. This leads us to the last thing to take into consideration to avoid inert ideas in education.

### THE RHYTHMIC CLAIMS OF FREEDOM AND DISCIPLINE

From what we have seen above, teachers who understand the rhythmic nature of growth that children pass through are faced with the problem that romance and generalization obviously require great measures of freedom while the stage of precision is dominated by discipline. The ancients scorned mere text-book learning holding up divine wisdom as their ideal. It is doubtful that their practices realized the goal but nevertheless it was there to inspire them. More recently, Whitehead believes, ideals have been shorn down to fit with practices. The emphasis is, frankly, on the discipline required for text-book subjects. When this is the aim an education begins and ends indiscipline.<sup>2</sup> Wisdom cannot grow from such soil for, “the only avenue towards wisdom is by freedom in the presence of knowledge” (Whitehead 1967, p.41).

Freedom must be available in the first stage of learning for it is a time of discovery. Interest, so necessary to the desire to learn, is sustained because any fact seems interesting in the glow of discovery. There is no planned search or particular enquiry at this time to determine what will be perceived. Come what may, it is all acceptable to the romantic. This stage might also be termed “assemblage” (Whitehead 1966, p. 2). If this stage, as part of a major or minor cycle, is allowed to be an uninhibited experience there is a natural craving to pass on to wider meanings and connections with the facts portend.

Systematization is not easy. Whitehead does not minimize the difficulty of the student's task especially during the great stage of precision. In spite of his emphasis upon enjoyment one cannot criticize Whitehead for wishing education to be too easy. He remarks humorously that “in education, as elsewhere, the broad primrose path leads to a nasty place (Whitehead 1967). The student who is successful in this stage has a twofold reward: First, there is the enjoyment of having mastered the details and of having acquired definite skills. Second, there is the wider freedom his knowledge allows him to experience. The main danger of this stage of learning is that initiative may be killed. The curiosity that is a passion for an ordered intellectual vision of the connection of events (Whitehead 1967) may die in the process of its satisfaction.

Educators who practice “a fatal disconnection of subjects” increase the danger of quelling initiative. The rigor of routine becomes more palatable as its need can be seen throughout the various areas of the curriculum. Discipline must be sensed as valuable to the total program. If it is a student welcomes discipline for the eventual satisfaction he expects as its reward. His expectation will carry him through to the stage of generalization where once again discipline is subordinated to freedom. Whitehead describes this third stage as “the stage of shedding

<sup>2</sup> Whitehead refers to European practices when he writes about education in *Aims of Education*. In America, as early as 1896, Dewey was experimenting at the University of Chicago with a curriculum for primary ages developed out of the children's own experiences. Their purposeful activities were directed by the teacher toward specific goals.

details in favour of the active application of principles, the details retreating into subconscious habits ... The essence of the stage is the emergence from the comparative passivity of being trained into the active freedom of application” (Whitehead 1967, p.48).

As in all the other stages, there is still acquisition of novel fact in the mode of romance and systematization in the mode of precision along with the native application of principles. Freedom and discipline are essential to the learning processes at any moment of progress. For, as Whitehead suggests, “there is not one unique threefold cycle of freedom, discipline, and freedom: but (...) all mental development is composed of such cycles, and of cycles of such cycles” (Whitehead 1967, p.42).

The dialectic in full operation is the pattern of mental growth. Learning begins when a human being is born. Stagnation and degeneration may interfere with the progression if the emphasis on discipline is too vigorous or is ill-timed. Without the freedom for speculation method becomes an end in itself. The fatigue of repetition is deadly to the speculative reason. When freedom and discipline find a fortunate balance in the growth processes of an individual the dialectic does not cease until death. Learning is a lifelong process (Whitehead 1958).

## CONCLUSION

Education for life is a form of education that seeks to inculcate into the students’ minds knowledge and skills that are useful in some special direction. Knowledge that would be meaningful to the students in that it has a practical applicability in their daily life and it equally has a relation with knowledge from other disciplines. Thus training the child to cultivate an interdisciplinary mindset should be the goal of education. Whitehead would talk of education as a form of reconciliation between theory and practice, the abstract and the concrete. Education has a universal and cultural value, which seeks to place human beings at a maximum level of growth and self-achievement. Generally, education has two major goals which are dependent on each other; That is, that of cultivating and developing an individual in particular and that of improving the society as a whole. In the past years, philosophers have tried to show how education can serve as a standard to enable an individual to develop his or her self and the society. In a progressive view, education has to focus on developing a child’s nature and ability. This is possible if more emphases are laid on the child’s potentials which will enable him or her to channel his abilities and aptitude for self-actualization. This will be easier if liberal and technical education are simultaneously practiced by learners in any educational system.

Today, the increase in technology has revolutionalized every aspect of the society. This has given an initiative to rethink the way we should teach. This is because there is an increasing need to adopt an educational system which would encourage the development of skills and aptitude for the growth of an individual and the enlightenment of the society at large. Education should reflect the realities of a society and not turning learners into containers to be filled by the teacher. According to Alfred North Whitehead, education should be useful in all aspects of human life (Whitehead 1967: 4). Thus education is a natural process seen from the fact that it is a process of self-development that sets in motion what is already in the mind. Whitehead continued that every adopted system of education should help students to discover the role they play in their own personal development. This can be seen from the fact that education is the acquisition of the art and the utilization of knowledge. He emphasized that education has only one subject matter and that is *“life in all its manifestation”*. Therefore, theoretical ideas should always be introduced within the pupil’s curriculum and their application should be considered a priority. All practical teachers know that education is a patient process of the mastery of details, minute by minute, hour by hour and day by day. Education to Whitehead has to impact an intimate sense for the power of ideas, the beauty of ideas and the structure of ideas. This is done together with a particular body of knowledge which has a particular reference to the life of the human being possessing it.

For this purpose of education to be met in our contemporary societies, and Cameroon in particular, schools should provide educational methods that promote self-development and the practicality of knowledge

acquired rather than focusing much on acquiring grades. By this, the students can be able to gain complete possession of their own powers and self-employment. Education in this respect should be able to develop self-initiated action and acceptance of responsibility for one's own actions, decision making skills, critical learning and evaluation, acquisition of knowledge for resolution of daily life challenges, intelligent and flexible adaptation to new situations and above all the self-motivation and desire to work for one's own purposes.

Finally, any proper education system that seeks to avoid feeding its students inert ideas must take critical thinking skills seriously. For, as Edward M. Glaser (1941) holds, the cultivation of critical thinking skills in children will create in the long run several advantages: (1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods. Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends. It also generally requires ability to recognize problems, to find workable means for meeting those problems, to gather and marshal pertinent information, to recognize unstated assumptions and values, to comprehend and use language with accuracy, clarity, and discrimination, to interpret data, to appraise evidence and evaluate arguments, to recognize the existence (or non-existence) of logical relationships between propositions, to draw warranted conclusions and generalizations, to put to test the conclusions and generalizations at which one arrives, to reconstruct one's patterns of beliefs on the basis of wider experience, and to render accurate judgments about specific things and qualities in everyday life.

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