Bachelor of Education (B. Ed)
Guru Gobind Singh Indraprastha University, Delhi
Course Title: Philosophical Perspectives of Education
Course Code: 101 Credits - 3
Time Allotted: 48 Hours
MM: 100 (External 75, Internal 25)

Objectives

1. To enable the Pupil Teacher to understand the relationship between philosophy and Education & their interdependence.
2. To enable the pupil teacher to analytically appraise the fundamental concepts in Educational Philosophy.
3. To orient the Pupil teacher to various Philosophical schools
4. To develop an understanding of the contribution of Indian philosophers
5. To develop an understanding of the contribution of Western philosophers.
6. To sensitize the pupil teachers towards the various facets of the realm of education.
7. To enable them to build their own philosophy of education/response to the reality of education.

To achieve this, students will be provided with selected material to study for analysis and syntheses. Discussion/Presentation/Lectures will be held to encourage students to formulate their own logical, consistent viewpoint to become responsible, sensitive human beings and professional teachers.

Course Content

Unit - I: Philosophical foundations of Education (8 hours)

- **Education:** Meaning, nature, aims in relation to time and place.
- **Philosophy:** Meaning and nature. Relationship between Philosophy and Education.
- **Foundations of Education**: Philosophical, Sociological and Psychological.
- **Educational Philosophy:** Meaning, nature and relevance for the teaching learning Process.
- **Analytical appraisal of fundamental concepts in Educational Philosophy:** Learner, training, learning, teaching, indoctrination and inquiry.

Unit - II: Major Philosophical Schools (12 hours)

- Idealism,
- Naturalism,
- Realism,
- Pragmatism,
- Existentialism

Study of the mentioned philosophical schools with special reference to their basic principles, aims, curriculum and teaching methodology

Unit - III: Educational Thinkers (Indian) (14 hours)

- Analytical study of thoughts of the Indian thinkers in relation to their formulation about aims of education, curriculum, teaching methodology and teacher:

➢ RabindraNath Tagore
➢ Mahatma Gandhi
➢ Sri Aurobindo
➢ J. Krishnamurti

Unit - IV: Educational Thinkers (Western) (14 hours)

- Analytical study of thoughts of the Western thinkers in relation to their formulation about aims of education, curriculum, teaching methodology and teacher:

➢ Rousseau
➢ John Dewey
➢ Pestolozzi
➢ Frobel

EDUCATION: MEANING, NATURE, AIMS IN RELATION TO TIME AND PLACE. MEANING, AIMS AND PROCESS OF EDUCATION

Generally speaking, 'Education' is utilized in three senses: Knowledge, Subject and a Process. When a person achieves degree up to certain level we do not call it education .As for example if a person has secured Masters degree then we utilize education it a very narrower sense and call that the person has achieved education up to Masters Level. In the second sense, education is utilized in a sense of discipline. As for example if a person had taken education as a paper or as a discipline during his study in any institution then we utilize education as a subject. In the third sense, education is utilized as a process. In fact when we talk of education, we talk in the third sense i.e. education as a process. Thus, we talk what is education as a process? What are their importance's etc.? The following debate on education will discuss education in this sense and we will talk education as a process.

By going through the text you will be able

- To know the meaning and concept of education
- To define the narrower and wider meaning of education
- To explain the analytical meaning of education
- To know the aims and scope of education

Etymological Meaning of Education

In English the term "Education" has been derived from two Latin words Educare (Educere) and Educatum. "Educare" means to train or mould. It again means to bring up or to lead out or to draw out, propulsion from inward to outward. The term "Educatum" denotes the act of teaching. It throws light on the principles and practice of teaching. The termEducare or Educere mainly indicates development of the latent faculties of the child. But child does not know these possibilities. It is the educator or the teacher who can know these and take appropriate methods to develop those powers. In Hindi, the term "Siksha" has come from the Sanskrit word "Shash". "Shash" means to discipline, to control, to order, to direct, to rule etc. Education in the traditional sense means controlling or disciplining the behaviour of an individual. In Sanskrit "Shiksha" is a particular branch of the Sutra literature, which has six branches -Shiksh, Chhanda, Byakarana, Nirukta, Jyotisha and Kalpa. The Sutra literature was designed to learn the Vedas. Siksha denotes rules of pronunciation.

There is another term in Sanskrit, which throws light on the nature of education. It is "Vidya" which means knowledge. The term "Vidya" has originated from "Bid" meaning knowledge. If we mention certain definitions of education of great educators of the East and the West, we may have a clear picture of the nature and meaning of the term education.

•Education is the manifestation of perfection already in man. Like fire in a piece of flint, knowledge exists in the mind. Suggestion is the friction; which brings it out.

Swami Vivekananda

•By education I mean an all-round drawing out of the best in child and man's body, mind and spirit.

Mahatma Gandhi

•The highest education is that which does not merely give us information but makes our life in harmony with all existence.

Rabindranath Tagore

•Education is something, which makes a man self-reliant and self-less.

Rigveda

•Education is that whose end product is salvation.

Upanishada

•Education according to Indian tradition is not merely a means of earning a living; nor it is only a nursery of thought or a school for citizenship. It is initiation into the life of spirit and training of human souls in the pursuit of truth and the practice of virtue.

Radhakrishnan

•Education develops in the body and soul of the pupil all the beauty and all the perfection he iscapable of.

Plato

•Education is the creation of sound mind in a sound body. It develops man's faculty specially his mind so that he may be able to enjoy the contemplation of supreme truth, goodness and beauty.

Aristotle

• Education is the child's development from within.
Rousseau
• Education is enfoldment of what is already enfolded in the germ. It is the process through which the child makes the internal-external.
Froebel
• Education is the harmonious and progressive development of all the innate powers and faculties of man- physical, intellectual and moral.
Pestalozzi
• Education is the development of good moral character.
J.F.Herbert
• Education is not a preparation for life, rather it is the living. Education is the process of living through a continuous reconstruction of experiences. It is the development of all those capacities in the individual which will enable him to control his environment and fulfill his possibilities.
John Dewey
• Education is the complete development of the individuality of the child so that he can make an original contribution to human life according to the best of his capacity.
T.P.Nunn

From the above discussion it is now clear that since the times of Plato to the modern times of John Dewey and Gandhi, various educationists have defined education in various ways. Speaking frankly, the field of education is so vast and varied that to give a specific definition of education aboutwhich all educationists agree is very difficult. We see that some educationists have defined only one aspect of education whereas the others emphasize its other phases. The reason of this difference of opinions is that different educationsts, most of whom are philosophers, have different views about the aim of life. According to Idealists, the aim of life is spiritual development. As such, they regard education as a spiritual process, which aims at bringing together the soul and the creator leading to self-realization. Pragmatists think about education as a process of social progress. Because of this difference in the philosophy of life, different educationists define education differently. The fact is that the real concept of education is not related solely to any of the above-mentioned views. It is more than either of them. In a real sense, education is a sort of synthesis of all the above viewpoints. In this sense, education includes the individuals, the society, the environment, the social fabric and the prevailing traditions. Hence, the definition of education ought to be a very comprehensive and all inclusive one.

True Definition of Education

The different meanings and definitions of education as given above lead us to the conclusion that education should have a comprehensive definition. Thus, education may be defined as a purposive, conscious or unconscious, psychological, sociological, scientific and philosophical process,which brings about the development of the individual to the fullest extent and also the maximum development of society in such a way that both enjoy maximum happiness and prosperity. In Short, education is the development of individual according to his needs and

demands of society, of which he is an integral part. The above remarks of different educators highlight the following special features of education:

• Education is both unilateral as well as bi-polar in nature.
• It is a continuous process.
• It is knowledge or experience.
• It is development of particular aspects of human personality or a harmonious integrated growth.
• It is conducive for the good of the individual or the welfare of the society.
• It is a liberal discipline or a vocational course.
• It is stabilizer of social order, conservator of culture, an instrument of change and social reconstruction.

Narrower and Broader Meaning of Education

Education in the Narrower Sense

In its narrow sense, school instruction is called education. In this process, the elders of society strive to attain predetermined aims during a specified time by providing pre-structured knowledge to children through set methods of teaching. The purpose is to achieve mental development of children entering school. To make of narrow meaning of education more clear, the following opinions of some other educationists are being given-

• The culture which each generation purposefully gives to those who are to be its successors, in order to qualify them for at least keeping up, and if possible for raising the level of improvement which has been attained.

John Stuart Mill

• In narrow sense, education may be taken to mean any consciously directed effort to develop andcultivate our powers.

S. S. Mackenzie

• Education is a process in which and by which knowledge, character and behaviour of the young are shaped and moulded.

Prof. Drever

• The influence of the environment of the individual with a view to producing a permanent change in his habits of behaviour, or thought and attitude.

G. H. Thompson

Education, in the narrower sense, is regarded as equivalent to instruction. It consists of the "specific influences" consciously designed in a school or in a college or in an institution to bring in the development and growth of the child. The word school includes the whole machinery of education from Kindergarten to the University. The education of the child begins with his admission in the school and ends with his departure from the University. The amount of education received by the child is measured in terms of degrees and diplomas awarded to him. The school represents formal education as it imparts education directly and systematically. There is deliberate effort on the part of the educator to inculcate certain habits, skills, attitudes or

influences in the learner, which are considered to be essential and useful to him. According to John Dewey: "The school exists to provide a special environment for the formative period of human life. School is a consciously designed institution, the sole concern of which is to educate the child. This special environment is essential to explain our complex society and civilization". The influences or modes of influences in the school are deliberately planned, chosen and employed by the community for the welfare of the members of the rising generation. The purpose of these influences is to modify the behaviour of the child in such a way that he may become different from what he would have been without education. It makes possible a better adjustment of human nature to surroundings. According to Mackenzie, education, in the narrower sense, is conscious effort to develop and cultivate our innate powers.

Education, in the narrow sense, is also regarded as acquisition of knowledge. According to it education is a process by which knowledge or information on a subject is acquired. But many sensible
educationists have criticized this view. They argue that emphasis on the knowledge is likely to reduce
all schools to mere knowledge-shops. The acquisition of knowledge is not the only or supreme aim of
education, yet it is one of the important aims of education.

Education in the Broader Sense

In its wider sense, education is the total development of the personality. In this sense. Education consists of all those experiences, which affect the individual from birth till death. Thus, education is that process by which an individual freely develops his self according to his nature in a free and uncontrolled environment. In this way, education is a life long process of growth environment.

• In the wider sense, it is a process that goes on throughout life, and is promoted by almost every experience in life.

S. S. Mackenzie

• By education, I mean the all-round drawing out of the best in child and man's body, mind andsoul.

M. K. Gandhi

• Education in its widest sense includes all the influences, which at upon an individual during hispassage from cradle to the grave.

Dumvile

• Education, in its broadest sense, is the means of the social continuity**.**

John Dewey

Education in the wider sense is a life-long process. It begins with the birth of a child and ends with his death. It is a continuous process. Continuity is the law of life. Education is not limited to the classroom only; it is also not limited to a particular period of life. Education is a life long process and goes on from birth to death. Throughout life one goes on learning to adjust oneself to

the changing patterns of life. Change it's the fundamental law of human existence. Life is a continuous process of growth and development and so education is also a continuous process.An individual learns through his experiences, which are acquired throughout his life. Education is not merely collection of some information. It is acquisition of experiences through life in the social
and natural environment. It includes all the knowledge and experiences, acquired during infancy,childhood, boyhood, adolescence, youth, manhood or old age through any agency of education- the press, the travels, the club, the nature- formally and informally. Thus, education becomes the sum-total of all experiences that the child receives either in the school or outside. In this wider sense, life is education and education is life. Whatever broadens our horizon, deepens our insight, refines our reactions and stimulates thought and feeling, educates us." In other words, education is the process
whereby a human being gradually adopts himself in various ways to his physical, social, and spiritual environments.

NATURE OF EDUCATION

As is the meaning of education, so is its nature. It is very complex. Let us now discuss the nature of education:

1. **Education is a life-long process-** Education is a continuous and lifelong process. It starts from the womb of the mother and continues till death. It is the process of development from infancy to maturity. It includes the effect of everything which influences human personality.

2. **Education is a systematic process-** It refers to transact its activities through a systematic institution and regulation.

3. **Education is development of individual and the society-** It is called a force for social development, which brings improvement in every aspect in the society.

4. **Education is modification of behaviour-** Human behaviour is modified and improved through educational process.

5**. Education is purposive:** every individual has some goal in his life. Education contributes in attainment of that goal. There is a definite purpose underlined all educational activities.

6. **Education is a training-** Human senses, mind, behaviour, activities; skills are trained in a constructive and socially desirable way.

7. **Education is instruction and direction-** It directs and instructs an individual to fulfill his desires and needs for exaltation of his whole personality.

8. **Education is life**- Life without education is meaningless and like the life of a beast. Every aspect and incident needs education for its sound development.

9. **Education is continuous reconstruction of our experiences-** As per the definition of John Dewey education reconstructs and remodels our experiences towards socially desirable way.

10. Education helps in individual adjustment: a man is a social being. If he is not able to adjust himself in different aspects of life his personality can't remain balanced. Through the medium of education he learns to adjust himself with the friends, class fellows, parents, relations, neighbours and teachers etc.

11. Education is balanced development: Education is concerned with the development of all faculties of the child. it performs the functions of the physical, mental, aesthetic, moral, economic, spiritual development of the individual so that the individual may get rid of his animal instincts by sublimating the same so that he becomes a civilized person.

12. Education is a dynamic process: Education is not a static but a dynamic process which develops the child according to changing situations and times. It always induces the individual towards progress. It reconstructs the society according to the changing needs of the time and place of the society.

13. Education is a bipolar process: According to Adams, education is a bipolar process in which one personality acts on another to modify the development of other person. The process is not only conscious but deliberate.

14. Education is a three dimensional process: John Dewey has rightly remarked, "All educations proceeds by participation of the individual in the social consciousness of the race." Thus it is the society which will determine the aims, contents and methods of teachings. In this way the process of education consists of 3 poles – the teacher, the child and the society.

15. Education as growth: The end of growth is more growth and the end of education is more education. According to John Dewey, "an individual is a changing and growing personality." The purpose of education is to facilitate the process of his/her growth.

Therefore, the role of education is countless for a perfect society and man. It is necessary for every society and nation to bring holistic happiness and prosperity to its individuals.

AIMS OF EDUCATION

Aims give direction to activities. Aims of education are formulated keeping in view the needs of situation. Human nature is multisided with multiple needs, which are related to life. Educational aims are correlated to ideals of life.

The goal of education should be the full flowering of the human on this earth. According to a UNESCO study, "the physical, intellectual, emotional and ethical integration of the individual into a complete man/woman is the fundamental aim of education."

The goal of education is also to form children into human persons committed to work for the creation of human communities of love, fellowship, freedom, justice and harmony. Students are to be moulded only by making them experience the significance of these values in the school itself. Teachers could achieve this only by the lived example of their lives manifested in hundreds of small and big transactions with students in word and deed.

Individual and Social Aims:

Individual aims and social aims are the most important aims of education. They are opposed to each other individual aims gives importance for the development of the individuality. Social aim gives importance to the development of society through individual not fulfilling his desire. But it will be seen that development of individuality assumes meaning only in a social environment.

Individual Aims – Sir Percy Nunn observes, "Nothing goods enters into the human world except in and through the free activities of individual men and women and that educational practice must be shaped the individual. Education should give scope to develop the inborn potentialities through maximum freedom."

Because:

(1) Biologists believe that every individual is different from others. Every child is a new and unique product and a new experiment with life. Thompson says, "Education is for the individual". Individual should be the centre of all educational efforts and activities.

(2) Naturalists believe that central aim of education is the autonomous development of the individual. Rousseau said, "Everything is good as it comes from the hands of the Author of Nature, but everything degenerates in the hands of man." God makes all things good, man meddles with them and they become evil. God creates everything good man makes it evil. So individual should be given maximum freedom for its own development.

(3) Psychologists believe that education is an individual process because of individual differences. No two individuals are alike. So education should be according to the interest of the individual.

Criticism of Individual Aim:

Individual aim is not desirable because man is a social animal. Society's interest should be protected.

(1) Individual aim makes individual selfish.

(2) Maximum freedom may go against the society.

(3) Individuality cannot develop from a vacuum; it develops in a social atmosphere.

(4) Unless society develops, individual cannot develop.

(5) Who will recognize society- where individual is selfish?

Social Aim:

The supporters believe that society or state is supreme or real. The individual is only a means. The progress of the society is the aim of education. Education is for the society and of the society. The function of education is for the welfare of the state. The state will make the individual as it desires. It prepares the individual to play different roles in society. Individuality has no value, and personality is meaningless apart from society. If society will develop individual will develop automatically. Here society plays an important role.

Criticism of Social Aim:

(1) It makes individual only a tool of government.

(2) It reduces individual to a mere non-entity.

(3) Society ignores the legitimate needs, desires and interests of the individual.

(4) It is against the development of individuality of the individual.

Synthesis between individual and social aims of education:

Individual aim and social aim of education go independently. Both are opposing to each other. It is not in reality. Neither the individual nor the society can exist. The individual is the product of the society while society finds its advancement in the development of its individual member.

Individual cannot develop in vacuum. According to John Adams, "Individuality requires a social medium to grow." And T.P. Nunn says," Individuality develops in social environment."

Conclusion:
According to James Ross, "The aim of education is the development of valuable personality and spiritual individuality." The true aim of education cannot be other than the highest development of the individual as a member of society. Let education burn the individual flame, feeding it with the oil of society.

PHILOSOPHY: MEANING AND NATURE. RELATIONSHIP BETWEEN PHILOSOPHY AND EDUCATION.

The Field of Philosophy
Introduction
Philosophy is quite unlike any other field. It is unique both in its methods and in the nature and breadth of its subject matter. Philosophy pursues questions in every dimension of human life, and its techniques apply to problems in any field of study or endeavour. No brief definition expresses the richness and variety of philosophy. It may be described in many ways. It is a reasoned pursuit of fundamental truths, a quest for understanding, a study of principles of conduct. It seeks to establish standards of evidence, to provide rational methods of resolving conflicts, and to create techniques for evaluating ideas and arguments. Philosophy develops the capacity to see the world from the perspective of other individuals and other cultures; it enhances one's ability to perceive the relationships among the various fields of study; and it deepens one's sense of the meaning and variety of human experience.

This short description of philosophy could be greatly expanded, but let us instead illustrate some of the points. As the systematic study of ideas and issues, philosophy may examine concepts and views drawn from science, art, religion, poitics, or any other realm. Philosophical appraisal of ideas and issues takes many forms, but philosophical studies often focus on the meaning of an idea and on its basis, coherence, and relations to other ideas. Consider, for instance, democracy. What is it? What justifies it as a system of government? Can a democracy allow the people to vote away their own rights? And how is it related to political liberty? Consider human knowledge. What is its nature and extent? Must we always have evidence in order to know? What can we know about the thoughts and feelings of others, or about the future? What kind of knowledge, if any, is fundamental? Similar kinds of questions arise concerning art, morality, religion, science, and each of the major areas of human activity. Philosophy explores all of them.

It views them both microscopically and from the wide perspective of the larger concerns of human existence.

Traditional Subfields of Philosophy

The broadest subfields of philosophy are most commonly taken to be logic, ethics, metaphysics, epistemology and the history of philosophy. Here is a brief sketch of each.

Logic is concerned to provide sound methods for distinguishing good from bad reasoning. It helps us assess how well our premises support our conclusions, to see what we are committed to accepting when we take a view, and to avoid adopting beliefs for which we lack adequate reasons. Logic also helps us to find arguments where we might otherwise simply see a set of loosely related statements, to discover assumptions we did not know we were making, and to formulate the minimum claims we must establish if we are to prove (or inductively support) our point. Click here for more on what logic is and why philosophers study it.

Ethics takes up the meanings of our moral concepts—such as right action, obligation and justice—and formulates principles to guide moral decisions, whether in private or public life. What are our moral obligations to others? How can moral disagreements be rationally settled? What rights must a just society accord its citizens? What constitutes a valid excuse for wrong-doing?

Metaphysics seeks basic criteria for determining what sorts of things are real. Are there mental, physical, and abstract things (such as numbers), for instance, or is there just the physical and the spiritual, or merely matter and energy? Are persons highly complex physical systems, or do they have properties not reducible to anything physical?

Epistemology concerns the nature and scope of knowledge. What does it mean to know (the truth), and what is the nature of truth? What sorts of things can be known, and can we be justified in our beliefs about what goes beyond the evidence of our senses, such as the inner lives of others or events of the distant past? Is there knowledge beyond the reach of science? What are the limits of self-knowledge?

The History of Philosophy studies both major philosophers and entire periods in the development of philosophy such as the Ancient, Medieval, Modern, Nineteenth Century, and Twentieth Century periods. It seeks to understand great figures, their influence on others, and their importance for contemporary issues. The history of philosophy in a single nation is often separately studied, as in the case of American Philosophy. So are major movements within a nation, such as British Empiricism and German Idealism, as well as international movements with a substantial history, such as existentialism and phenomenology. The history of philosophy not only provides insight into the other subfields of philosophy; it also reveals many of the

foundations of Western Civilization. Click here for a chronological map of the great philosophers.

Special Fields of Philosophy

Many branches of philosophy have grown from the traditional core areas. What follows is a sketch of some of the major ones.

Philosophy of Mind: This subfield has emerged from metaphysical concerns with the mind and mental phenomena. The philosophy of mind addresses not only the possible relations of the mental to the physical (for instance, to brain processes), but the many concepts having an essential mental element: belief, desire, emotion, feeling, sensation, passion, will, personality, and others. A number of major questions in the philosohy of mind cluster in the area of action theory: What differentiates actions, such as raising an arm, from mere body movements, such as the rising of an arm? Must mental elements, for example intentions and beliefs, enter into adequate explanations of our actions, or can actions be explained by appeal to ordinary physical events? And what is required for our actions to be free?

Philosophy of Religion: Another traditional concern of metaphysics is to understand the concept of God, including special attributes such as being all-knowing, being all-powerful, and being wholly good. Both metaphysics and epistemology have sought to assess the various grounds people have offered to justify believing in God. The philosophy of religion treats these topics and many related subjects, such as the relation between faith and reason, the nature of religious language, the relation of religion and morality, and the question of how a God who is wholly good could allow the existence of evil.

Philosophy of Science: This is probably the largest subfield generated by epistemology. Philosophy of science is usually divided into philosophy of the natural sciences and philosophy of the social sciences. It has recently been divided further, into philosophy of physics, biology, psychology, economics, and other sciences. Philosophy of science clarifies both the quest for scientific knowledge and the results yielded by that quest. It does this by exploring the logic of scientific evidence; the nature of scientific laws, explanations, and theories; and the possible connections among the various branches of science. How, for instance, is psychology related to brain biology, and biology to chemistry? And how are the social sciences related to the natural sciences?

Subfields of Ethics: From ethics, too, have come major subfields. Political Philosophy concerns the justification—and limits—of governmental control of individuals; the meaning of equality before the law; the basis of economic freedom; and many other problems concerning government. It also examines the nature and possible arguments for various competing forms of political organization, such as laissez-faire capitalism, welfare democracy (capitalistic and socialistic), anarchism, communism, and fascism. Social Philosophy, often taught in combination

with political philosophy (which it overlaps), treats moral problems with large-scale social dimensions. Among these are the basis of compulsory education, the possible grounds for preferential treatment of minorities, the justice of taxation, and the appropriate limits, if any, on free expression in the arts. The Philosophy of Law explores such topics as what law is, what kinds of laws there are, how law is or should be related to morality, and what sorts of principles should govern punishment and criminal justice in general. Medical Ethics addresses many problems arising in medical practice and medical science. Among these are standards applying to physician-patient relationships; moral questions raised by special procedures, such as abortion and ceasing of life-support for terminal patients; and ethical standards for medical research, for instance genetic engneering and experimentation using human subjects. Business Ethics addresses such questions as how moral obligations may conflict with the profit motive and how these conflicts may be resolved. Other topics often pursued are the nature and scope of the social responsibilities of corporations, their rights in a free society, and their relations to other institutions.

Philosophy of Art (Aesthetics): This is one of the oldest subfields. It concerns the nature of art, including both the performing arts and painting, sculpture, and literature. Major questions in aesthetics include how artistic creations are to be interpreted and evaluated, and how the arts are related to one another, to natural beauty, and to morality, religion, science, and other important elements of human life.

Philosophy of Language: This field has close ties to both epistemology and metaphysics. It treats a broad spectrum of questions about language: the nature of meaning, the relations between words and things, the various theories of language learning, and the distinction between literal and figurative uses of language. Since language is crucial in nearly all human activity, the philosophy of language can enhance our understanding both of other academic fields and of much of what we ordinarily do.

Other Subfields: There are many other subfields of philosophy, and it is in the nature of philosophy as critical inquiry to develop new subfields when new directions in the quest for knowledge, or in any other area of human activity, raise new intellectual problems. Among the subfields not yet mentioned, but often taught at least as part of other courses, are Inductive Logic, Philosophy of Logic, Philosophy of History, Philosophy of Mathematics, Philosophy of Medicine, Philosophy of Education, Philosophy of Feminism, Philosophy of Linguistics, Philosophy of Criticism, Philosophy of Culture, and Philosophy of Film.

The Uses of Philosophy

General Uses of Philosophy

Much of what is learned in philosophy can be applied in virtually any endeavour. This is both because philosophy touches on so many subjects and, especially, because many of its methods are usable in any field.

General Problem Solving: The study of philosophy enhances, in a way no other activity does, one's problem-solving capacities. It helps one to analyze concepts, definitions, arguments and problems. It contributes to one's capacity to organize ideas and issues, to deal with questions of value, and to extract what is essential from masses of information. It helps one both to distinguish fine differences between views and to discover common ground between opposing positions. And it helps one to synthesize a variety of views or perspectives into a unified whole**.**

Communication Skills: Philosophy also contributes uniquely to the development of expressive and communicative powers. It provides some of the basic tools of self-expression—for instance, skills in presenting ideas through well-constructed, systematic arguments—that other fields either do not use, or use less extensively. It helps one to express what is distinctive of one's view; enhances one's ability to explain difficult material; and helps one to eliminate ambiguities and vagueness from one's writing and speech.

Persuasive Powers: Philosophy provides training in the construction of clear formulations, good arguments, and apt examples. It thereby helps one develop the ability to be convincing. One learns to build and defend one's own views, to appreciate competing positions, and to indicate forcefully why one considers one's own views preferable to alternatives. These capacities can be developed not only through reading and writing in philosophy, but also through the philosophical dialogue, in and outside the classroom, that is so much a part of a thoroughgoing philosophical education.

Writing Skills: Writing is taught intensively in many philosophy courses, and many regularly assigned philosophical texts are unexcelled as literary essays. Philosophy teaches interpretive writing through its examination of challenging texts, comparative writing through emphasis on fairness to alternative positions, argumentative writing through developing students' ability to establish their own views, and descriptive writing through detailed portrayal of concrete examples: the anchors to which generalizations must be tied. Strucure and technique, then, are emphasized in philosophical writing. Originality is also encouraged, and students are generally urged to use their imagination and develop their own ideas.

The Uses of Philosophy in Educational Pursuits

The general uses of philosophy just described are obviously of great academic value. It should be clear that the study of philosophy has intrinsic rewards as an unlimited quest for understanding of important, challenging problems. But philosophy has further uses in deepening an education, both in college and in the many activities, professional and personal, that follow graduation.

Understanding Other Disciplines: Philosophy is indispensable for this. Many important questions about a discipline, such as the nature of its concepts and its relation to other disciplines, do not belong to that discipline, are not usually pursued in it, and are philosophical in nature. Philosophy of science, for instance, is needed to supplement the understanding of the natural and social sciences which one derives from scientific work itself. Philosophy of literature and philosophy of history are of similar value in understanding the humanities, and philosophy of art is important in understanding the arts. Philosophy is, moreover, essential in assessing the various standards of evidence used by other disciplines. Since all fields of knowledge employ reasoning and must set standards of evidence, logic and epistemology have a general bearing on all these fields.

Development of Sound Methods of Research and Analysis:

Still another value of philosophy in education is its contribution to one's capacity to frame hypotheses, do research, and put problems into manageable form. Philosophical thinking strongly emphasizes clear formulation of ideas and problems, selection of relevant data, and objective methods for assessing ideas and proposals. It also emphasizes development of a sense of the new directions suggested by the hypotheses and questions one encounters in doing research. Philosophers regularly build on both the successes and failures of their predecessors. A person with philosophical training can readily learn to do the same in any field.

The Uses of Philosophy in Non-Academic Careers

It should be stressed immediately that the non-academic value of a field of study must not be viewed mainly in terms of its contribution to obtaining one's first job after graduation. Students are understandably preoccupied with getting their first job, but even from a narrow vocational point of view it would be short-sighted to concentrate on that at the expense of developing potential for success and advancement once hired. What gets graduates initially hired may not yield promotions or carry them beyond their first position, particularly given how fast the needs of many employers alter with changes in social and economic patterns. It is therefore crucial to see beyond what a job description specifically calls for. Philosophy need not be mentioned among a job's requirements in order for the benefits derivable from philosophical study to be appreciated by the employer, and those benefits need not even be explicitly appreciated in order to be effective in helping one advance.

It should also be emphasized here that as recent studies show employers want, and reward, many of the capacities which the study of philosophy develops: for instance, the ability to solve problems, to communicate, to organize ideas and issues, to assess pros and cons, and to boil down complex data. These capacities represent transferable skills. They are transferable not only from philosophy to non-philosophy areas, but from one non-philosophical field to another. For that reason, people trained in philosophy are not only prepared to do many kinds of tasks; they can also cope with change, or even move into new careers, more readily than others.

Regarding current trends in business, a writer in the New York Times reported that "businessmen are coming to appreciate an education that at its best produces graduates who can write and think clearly and solve problems" (June 23, 1981). A recent long-term study by the Bell Telephone Company, moreover, determined that majors in liberal arts fields, in which philosophy is a central discipline, "continue to make a strong showing in managerial skills and have experienced considerable business success" (Career Patterns, by Robert E. Beck). The study concluded that "there is no need for liberal arts majors to lack confidence in approaching business careers". A related point is made by a Senior Vice President of the American Can Company:

Students with any academic background are prepared for business when they can educate themselves and can continue to grow without their teachers, when they have mastered techniques of scholarship and discipline, and when they are challenged to be all they can be. (Wall Street Journal, February 2, 1981.)

As all this suggests, there are people trained in philosophy in just about every field. They have gone not only into such professions as teaching (at all levels), medicine, and law, but into computer science, management, publishing, sales, criminal justice, public relations, and other fields. Some professionally trained philosophers are also on legislative staffs, and the work of some of them, for a senior congressman, prompted him to say:

It seems to me that philosophers have acquired skills which are very valuable to a member of Congress. The ability to analyze a problem carefully and consider it from many points of view is one. Another is the ability to communicate ideas clearly in a logically compelling form. A third is the ability to handle the many different kinds of problems which occupy the congressional agenda at any time. (Lee H. Hamilton, 9th District, Indiana, March 25, 1982.)

In emphasizing the long-range benefits of training in philosophy, whether through a major or through only a sample of courses in the field, there are a least two further points to note. The first concerns the value of philosophy for vocational training. The second applies to the whole of life.

First, philosophy can yield immediate benefits for students planning postgraduate work. As law, medical, business, and other professional school faculty and admissions personnel have often said, philosophy is excellent preparation for the training and later careers of the professionals in

question. In preparing to enter such fields as computer science, management, or public administration, which, like medicine, have special requirements for post-graduate study, a student may of course major (or minor) both in philosophy and some other field.

The **second** point here is that the long-range value of philosophical study goes far beyond its contribution to one's livelihood. Philosophy broadens the range of things one can understand and enjoy. It can give one self-knowledge, foresight, and a sense of direction in life. It can provide, to one's reading and conversation, special pleasures of insight. It can lead to self-discovery, expansion of consciousness, and self-renewal. Through all of this, and through its contribution to one's expressive powers, it nurtures individuality and self-esteem. Its value for one's private life can be incalculable; its benefits for one's public life as a citizen can be immeasurable.

Conclusion

Philosophy is the systematic study of ideas and issues, a reasoned pursuit of fundamental truths, a quest for a comprehensive understanding of the world, a study of principles of conduct, and much more. Every domain of human experience raises questions to which its techniques and theories apply, and its methods may be used in the study of any subject or the pursuit of any vocation. Indeed, philosophy is in a sense inescapable: life confronts every thoughtful person with some philosophical questions, and nearly everyone is guided by philosophical assumptions, even if unconsciously. One need not be unprepared. To a large extent one can choose how reflective one will be in carifying and developing one's philosophical assumptions, and how well prepared one is for the philosophical quesions life presents. Philosophical training enhances our problem-solving capacities, our abilities to understand and express ideas, and our persuasive powers. It also develops understanding and enjoyment of things whose absence impoverishes many lives: such things as aesthetic experience, communication with many different kinds of people, lively discussion of current issues, the discerning observation of human behavior, and intellectual zest. In these and other ways the study of philosophy contributes immeasurably in both academic and other pursuits.

The problem-solving, analytical, judgemental, and synthesizing capacities philosophy develops are unrestricted in their scope and unlimited in their usefulness. This makes philosophy especially good preparation for positions of leadership, responsibility, or management. A major or minor in philosophy can easily be integrated with requirements for nearly any entry-level job; but philosophical training, particularly in its development of many transferable skills, is especially significant for its long-term benefits in career advancement.

Wisdom, leadership, and the capacity to resolve human conflicts cannot be guaranteed by any course of study; but philosophy has traditionally pursued these ideals systematically, and its methods, its literature, and its ideas are of constant use in the quest to realize them. Sound reasoning, critical thinking, well constructed prose, maturity of judgement, a strong sense of relevance, and an enlightened consciousness are never obsolete, nor are they subject to the

fluctuating demands of the market-place. The study of philosophy is the most direct route, and in many cases the only route, to the full developent of these qualities.

FOUNDATIONS OF EDUCATION: PHILOSOPHICAL, SOCIOLOGICAL AND PSYCHOLOGICAL.

EDUCATIONAL PSYCHOLOGY AS FOUNDATION OF EDUCATION

Psychology and Sociology Defined

The word "psychology" comes from the Greek word (Psyche mean Soul, Logos mean Science),thus the meaning of Psychology is the science of soul. It is the science of behaviour, the activities of animate creature, which can be observed and measured in an objective way.Sociology is said to be the study of human social behaviour, especially the study of the origins,organization, institutions, and development of human society.Education in the other hand is the modification of behaviour of children in a controlledenvironment. To shape the behaviour of the subject and bring some positive or negative changes, it isnecessary to study the science of behaviour. The developmental stages and characteristics of children arevery essential factors from which the teacher must aware in order to be a successful teacher.If the teacher has no knowledge of children psychology and societal origins, how can we expectfrom him that he would succeed in bringing about the desirable changes in children?

Psychological Education and Sociological Education

Educational psychology is an interdisciplinary subject that incorporates human development,learning strategies, intelligence, motivation, measurement, and classroom management. An emphasiswill be placed upon developing a consistent theory and philosophy (personal) based upon thepreponderance of current research including, but not limited to such fields as brain-based learning,multiculturalism, gender, and socioeconomic status.It studies about how humans learn in educational settings, the effectiveness of educationalinterventions, the psychology of teaching, and the social psychology of schools as organizations. Mainly,it is concerned with how students learn and develop, often focusing on subgroups such as gifted childrenand those subject to specific disabilitiesEducational sociology, then, is the application of sociological principles and methods to thesolution of problems in an educational system. It is mostly concerned with schooling, and especially themass schooling systems of modern industrial societies, including the expansion of higher, further, adult,and continuing education.

Contribution of Educational Psychology

One simple question may be asked as to why educational psychology should be taught to prospectiveteachers in training colleges. The educational psychology helps the teachers in the following ways:

1. To understand developmental characteristics
2. To understand the nature of class room learning
3. To understand individual differences
4. To understand effective teaching methods
5. Knowledge of mental health
6. Curriculum construction
7. Measurement of learning out-comes

Children pass through different stages of development in life as infancy, childhood and adolescence.These developmental stages have their own characteristics and demands.With the help of education psychology the teacher understand the students and their need andproblems, it help teacher in learning process in general and class-room learning in particular.With the help of psychology teacher understand the individual's differences. Teacher faces a class of 30to 50 students who have a different range of individual differences. Teacher with the knowledge of education psychology and individual differences may adjust his teaching to the needs and requirementsof the class.

Every day experience shows that lack of proper methods of teaching sometimes results infailure of communication in the classroom. The educational psychology gives us the knowledgeof appropriate methods of teaching. It helps in developing new strategies of teaching.Psychological principles are also used in formulating curriculum for different stages.Psychological tools help the teachers to evaluate the learning out-come of the students. ithelps the teacher to evaluate his own performance.Mental health of the student and teacher is very important for efficient learning. With the helpof educational psychology, the can understand the various factors, which are responsible forthe mental health and maladjustment.

8. Guidance for the education of exceptional children

Methods of Educational Psychology

1. Introspection: Historically introspection is the oldest method of all, which was formerly used in philosophy, andthen in psychology to collect data about the conscious experience of the subject. Introspectionmeans to see within one self or self observation. To understand one's own mental health and thestate of mind. This method was developed by the structuralists in psychology who definedpsychology as the study of conscious experiences of the individual.

2. Observation: With the development of psychology as an objective science of behaviour, the method of introspection was replaced by careful observation of human and animal behaviour.Observation literally means looking outside oneself. It is a very important method forcollecting data in almost all type of research studies.

3. Experimental Method: This method has been developed in psychology by the continuous efforts by psychologists tomake objective and scientific study of human behaviour. One of the major contributions of thebehaviourism is the development of experimental method to understand, control andpredict behaviour. It is the most precise, planned systematic observation. The experimentalmethod uses a systematic procedure called experimental design.

4. Clinical Method: This method is primarily used to collect detailed information on the behaviour problems of maladjusted and deviant cases. The main objective of this method is to study individual case orcases of group to detect and diagnose their specific problems and to suggest therapeuticmeasures to rehabilitate them in their environment.

5. Case Study Method: Case study is in-depth study of the subject. It is the in-depth analysis of a person, group, orphenomenon. A variety of techniques are employed including personal interviews, psychometrictests,direct observation,and archival records. Case studies are most often used in psychology inclinicalresearch to describe the rare events and conditions of the subject; case study is speciallyused in education psychology.

Systems of Schools of Psychology

1. **Structuralism:** This grew out of the work of James, Wundt, and their associates. These psychologists believed thechief purpose of psychology was to describe, analyse, and explain conscious experience,particularly feelings and sensations. The structuralists attempted to give a scientific analysis of conscious experience by breaking it down into its specific components or structures. For example,they identified four basic skin sensations: warmth, cold, pain, and pressure. They analysed thesensation of wetness as the combined experience of cold and smoothness.

2. **Functionalism:**This is the doctrine that what makes something a thought, desire, pain (or any other type of mental state) depends not on its internal constitution, but solely on its function, or the role itplays, in the cognitive system of which it is a part. More precisely, functionalist theories take theidentity of a mental state to be determined by its causal relations to sensory stimulations, othermental states, and behaviour.

3. **Behaviourism:** This was introduced in 1913 by John B. Watson, an American psychologist. Watson and hisfollowers believed that observable behaviour, not inner experience, was the only reliable sourceof information. The behaviourists also stressed the importance of the environment in shaping anindividual's behaviour. They chiefly looked for connections between observable behaviour andstimuli from the environment.

4. **Gestalt psychology:**Like behaviourism, developed as a reaction against structuralism. Gestalt psychologists believedthat human beings and other animals perceive the external

world as an organized pattern, not asindividual sensations. For example, a film consists of thousands of individual still pictures, but wesee what looks like smooth, continuous movement. The familiar saying "The whole is greater thanthe sum of its parts" expresses an important principle of the Gestalt movement.Gestalt psychology was founded about 1912 by Max Wertheimer, a German psychologist. Duringthe 1930's, Wertheimer and two colleagues took the Gestalt movement to the United States.

5. **Psychoanalysis:**Was founded during the late 1800's and early 1900's by the Austrian doctor Sigmund Freud.Psychoanalysis was based on the theory that behaviour is determined by powerful inner forces,most of which are buried in the unconscious mind. According to Freud and otherpsychoanalysts, from early childhood people repress (force out of conscious awareness) anydesires or needs that are unacceptable to themselves or to society.

6. **Individual Psychology:**Alfred Adler postulates a single "drive" or motivating force behind all our behavior andexperience. By the time his theory had gelled into its most mature form, he called that motivatingforce the striving for perfection. It is the desire we all have to fulfill our potentials, and is basicallythe same idea as Carl Rogers' idea of self-actualization.

7. **Existential Psychology:** Existentialism uses a philosophical method called phenomenology. Phenomenology is the carefuland complete study of phenomena, and is basically the invention of the philosopher EdmundHusserl. Phenomena are the contents of consciousness, the things, qualities, relationships,events, thoughts, images, memories, fantasies, feelings, acts, and so on, which we experience. Phenomenology is an attempt to allow these experiences to speak to us, to reveal themselvestous, so we might describe them in as unbiased a fashion as possible

8. **Humanistic Psychology:** Like Existentialism, Humanism is a broad collection of theories and theorists that are some times hard to pin down. But the best known and most influential person among them has to be Carl Rogers.

Relation between sociology and education Role of Education to Society

Education begins at home. One does not only acquire knowledge from a teacher;one can learn and receive knowledge from a parent, family member and even anacquaintance. In almost all societies, attending school and receiving an education isextremely vital and necessary if one wants to achieve success.However, unfortunately we have places in the world, where not everyone has anopportunity to receive this formal type of education. The opportunities that areoffered are greatly limited. Sometimes there are not enough resources to provideschooling. Furthermore because parents need their children to help them work infactories, have odd jobs, or just do farm work.

b. **Issues of Society** Educational institution is a good sample of society. It is a miniature form of society. You can find various group like group of learners (boys and girls), group of teacher(male and female),group of non teaching staff. Various roles are played in educational institutions like Evaluation (peer evaluation, tutor evaluation, evaluation of teacher by learner etc).Teacher play role of Judge(evaluation),helper (help learner in achieving objective),detective(find out the law breaker),Idol(promoting values).The environment of educational institution is a complex one and various issues like gender, Social background, language technology, ideology interplay in a complex social milieu at micro(within institution) and macro (broad perspective) level. Let us go through these issues in brief. This will be useful in arranging effective learning experience.

Social Reproduction

A.Structural and Function of Social Reproduction

Social reproduction is a sociological term referring to processes which sustain orperpetuate characteristics of a given social structure or tradition over a period of time.Much of what we do in schools is designed to further the mission of "social reproduction" - one generation effectively reproducing itself in the next. We create “grade level expectations" based on the performance of children of the past and hold contemporary students to that - holding them back or trying to rush them forward - but holding them. We enforce our own technological preferences,frustrating and limiting the possible success of students most pulled toward future possibilities. We enforce a system of manners created by and for a power structure which existed two generations ago (back when administrators and legislators went to school).

B. ConflictsA psychic struggle, often unconscious, resulting from the opposition orsimultaneous functioning of mutually exclusive impulses, desires, or tendencies.

C. Conflict Theory: States that society or an organization functions so that each individual participantand its groups struggle to maximize their benefits, which inevitably contributes tosocial changesuch as political changes and revolutions. The theory is mostlyapplied to explain conflict betweensocial classes,proletariat versus bourgeoisie;and in ideologies, such as capitalism versussocialism.While conflict theorysuccessfully describes instances where conflict occurs between groups of people,for a variety of reasons, it is questionable whether this represents the ideal human society.

FACTORS AND PERSONS AFFECTING SOCIOLOGICAL EDUCATION

Agent of Society

a. Education's Role to Society: The purpose of educationis to pass on some values from one generation onto the next, yet those values have changed somewhat since later generations explore new limits when it comes to student discipline, learning standards, the teaching of religion and other relevant issues. There has to be some kind of mirror between what the system teaches and what the dominant society around that system would like tosee. So if you living in the US you still won't expect to learn much about Marx since his name is synonymous with communismand everything anti-capitalist. Similarly you will be fed the biblical creationist theory regarding the six days of the earth's creation in certain states that have voted for a return to this model of creation despite a mass of scientific data showing the contrary.

b. Teachers' Role to Society: The role of a teacher in society is both significant and valuable.It has far-reaching influence on the society he lives in and no other personality can have an influence more profound than that of ateacher. Students are deeply affected by the teacher's love and affection, his character, his competence, and his moral commitment. A popular teacher becomes a model for his students. The students try to follow their teacher in his manners, costumes, etiquette, style of conversation and his get up. He is their ideal.

c. Family and Structure: The definition of the Filipino family has been slowly changing in the last few decades.The Filipino family is described as being basically nuclear but functionally extended.This means that most families consist of the parents and their children, but there isrecognition and respect for the ties between the nuclear family and the whole network of relatives from both sides of the family. Grandparents, godparents, uncles, aunts,etc. --- all play some part in raising the children. Major decisions are consulted withthem, especially when the parents are still young and starting out.

d. Government Works: The present government wants to give state schools more independence from localauthorities. The aim is to reduce bureaucracy, enable schools to adopt a specialistarea such as sport or music, and encourage more competition amongst schools. Critics argue that such reforms will create a "two-tier education system."

Components of Society

a. Sex and Gender: Gender refers to an individual's anatomical sex, or sexual assignment, and thecultural and social aspects of being male or female. Outward expression of gender identityaccording to cultural and social expectations is a gender role. Either gender can live out a genderrole (for example, being a homemaker) but not a sex role, which is anatomically limited to onegender (gestating and giving birth being limited to females, for example).An individual's sexual orientation refers to her or his relative attraction to members of the samesex

(homosexual), other sex (heterosexual), or both sexes (bisexual).b. Gender RolesGender roles are cultural and personal. They determine how males and femalesshould think, speak, dress, and interact within the context of society. Learning plays a role in thisprocess of shaping gender roles. These gender schemas are deeply embedded cognitiveframeworks regarding what defines masculine and feminine. While various socializing agents—parents, teachers, peers, movies, television, music, books, and religion—teach and reinforcegender roles throughout the lifespan, parents probably exert the greatest influence, especially ontheir very young offspring.

c. Race and Ethnicity: The term race refers to groups of people who have differences and similarities inbiological traits deemed by society to be socially significant, meaning that peopletreat other people differently because of them. For instance, while differences andsimilarities in eye color have not been treated as socially significant, differencesand similarities in skin color have

d. Language:A sociology of language would seek to understand the way that social dynamics are affected byindividual and group language use. It would have to do with who is 'authorized' to use whatlanguage, with whom and under what conditions. It would have to do with how an individual orgroup identity is established by the language that they have available for them to use. It would seek to understand individual expression, one's (libidinal) investment in the linguistic tools that one has access to in order to bring oneself to other people.

e. Technology: The journal "Sociology of Science and Technology" specialises in problems in sociology of scienceand technology. It is published under scientific guidance of the Institute for the History of Science and Technology named after Sergey I. Vavilov, St. Petersburg Branch, Russian Academy of Sciences. Founded in 2009, it is published 4 times a year, in Russia.

f. Ideology: This term has a long, complex, and extraordinarily rich history. As a specifically sociologicalconcept, it originated in the work of KarlMarx,and to this day its deployment in a particularsociological analysis remains a sign that such analysis is either Marxist or strongly influenced by Marxism. This said, it is important to bear in mind that the social phenomenon to which the concept refers—the realm of ideas orculture, in general, and that of political ideas or political culture more specifically—together with therelationship between the realm of ideas and those of politics and economics, have also been discussed atlength within other sociological traditions. What is more, these other discussions (especially those amongstWeberians, Durkheimians, and structuralists), have not infrequently had a considerable impact on Marxistconceptualizations of ideology (as well as vice versa).

g. Secularism: This is the concept that government or other entities should exist separately fromreligionand/orreligious beliefs. In one sense, secularism may assert the right to be free from religious rule and teachings,and the right to freedom from governmental imposition of religion upon the people within a statethat is neutral on matters of belief. (See alsoSeparation of church

and stateandLaïcité.) In another sense, it refers to the view that human activities and decisions, especiallypoliticalones, should bebased on evidence and fact unbiased by religious influence.

Stereotypes

a. Gender Stereotypes

This simplistic generalizations about the gender attributes, differences, and roles of individuals and/or groups. Stereotypes can be positive or negative, but they rarelycommunicate accurate information about others. When people automatically applygender assumptions to others regardless of evidence to the contrary, they areperpetuating gender stereotyping. Many people recognize the dangers of gender stereotyping, yet continue to make these types of generalizations.

b. Educational Stereotypes

Thirdly, there are some stereotypes related to educational skills. Real women don't do math, oryou're too pretty to be a math major are some of the stereotypes. Women see this and say math isonly for male. This prevents them from going into math class. Even if they go into math class andthey might not do well. Men see women as taking art and dance classes. I disagree with thesestereotypes, because women are doing better than women. Women are going to places that mengo and do things that men do. We think that things are impossible for women and say only a mancan do it. This is wrong and it should not be considered as the right idea in recognizing women.

Social Stratification

a. Origins of Social Stratification

In early societies, people shared a common social standing. As societies evolved and became morecomplex, they began to elevate some members. Today, stratification, a system by which societyranks its members in a hierarchy, is the norm throughout the world. All societies stratify theirmembers. A stratified society is one in which there is an unequal distribution of society's rewardsand in which people are arranged hierarchically into layers according to how much of society'srewards they possess. To understand stratification, we must first understand its origins.>Hunting and gathering societies had little stratification. Men hunted for meat while womengathered edible plants, and the general welfare of the society depended on all its members sharingwhat it had. The society as a whole undertook the rearing and socialization of children and sharedfood and other acquisitions more or less equally. Therefore, no group emerged as better off than the others.

EDUCATIONAL PHILOSOPHY: MEANING, NATURE AND RELEVANCE FOR THE TEACHING LEARNING PROCESS.

What is the Philosophy of Education?

The Philosophy of Education deals with how children should be educated, what they should be educated in, and what the ultimate purpose of education should be for society. This is an often neglected field of philosophy and, when it is addressed, it tends to only be in educational programs designed to train teachers - in this context, it is a part of pedagogy, which is learning how to teach. For religious theists, the philosophy of education can often be tightly integrated with theology and religious indoctrination in order to instill religious values, doctrines, and commitment at a young age.

Why Should Atheists Care?

The Philosophy of Education doesn't touch upon as many subjects relevant to atheists as other branches of philosophy, but it does involve a couple of important issues. For many religious theists, religious education is an indispensable part of the learning process because religions is necessary for instilling values and morals. Many would like to see this happen in public schools, believing that their religion should be taught as a basis for social order. Atheists typically oppose such measures, but this can be done on a firmer basis if one has a better understanding of what education is all about.

Why is it Important?

How and why a society educates its children will be dispositive for the following generations and long-term political health. In other words, we define our society and the society of our future by how and why we educate the young. Do we want our children to be educated for democracy or consumerism? Should children learn by rote memorization or through creative problem solving? Does school exist to teach values or skills for use in the job market? Because these decisions will affect the course of society for decades to come, the questions asked are as important as those found in any other branch.

Learning Theories and Transfer of Learning

There are lots of different learning theories that can be used to help guide a teaching/learning process.

Introduction

The intent of this Website is to help support the work of IT in education materials and users of such materials. Materials developers can incorporate ideas from a variety of learning theories

into their materials. Teachers can incorporate ideas from this Website into their lesson plans and day to day teaching.

There are many additional different learning theories related to use of IT in education include:

- Anchored Instruction (John Bransford). This is closely related to Situated Learning.
- Cognitive Flexibility Theory (R. Spiro, P. Feltovitch& R. Coulson). This theory has a special emphasis on dealing with complex problem-solving situations (higher-order thinking skills).
- Experiential Learning (Carl Rogers)
- Multiple Intelligences (Howard Gardner)

discussion of 12 learning theories:

- Constructivism
- Behaviorism
- Piaget's Developmental Theory
- Neuroscience
- Brain-Based Learning
- Learning Styles
- Multiple Intelligences
- Right Brain/Left Brain
- Thinking
- Communities of Practice
- Control Theory
- Observational Learning
- Vygotsky and Social Cognition

Constructivism

Constructivist learning is based on students' active participation in problem-solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to a new situation, and integrating the new knowledge gained with pre-existing intellectual constructs.

Definition: Constructivism is an educational philosophy which holds that learners ultimately construct their own knowledge that then resides within them, so that each person's knowledge is as unique as they are. Among its key precepts are:

- situated or anchored learning, which presumes that most learning is context-dependent, so that cognitive experiences situated in authentic activities such as project-based learning;
- cognitive apprenticeships, or case-based learning environments result in richer and more meaningful learning experiences;
- social negotiation of knowledge, a process by which learners form and test their constructs in a dialogue with other individuals and with the larger society. collaboration as a principal focus of learning activities so that negotiation and testing of knowledge can occur.

Constructivist philosophy is often contrasted with 'objectivist' philosophy and practice as embodied by instructional designers, especially ISD (Instructional Systems Design) practitioners, many of whom see constructivism either as nothing new or as not truly related to instruction.

Relevance: Constructivism is one of the hot topics in educational philosophy right now. It potentially has profound implications for how current `traditional' instruction is structured, since it fits with several highly touted educational trends, for example:

- the transition of the teacher's role from "sage on the stage" (fount/transmitter of knowledge) to "guide on the side" (facilitator, coach);
- teaching "higher order" skills such as problem-solving, reasoning, and reflection (for example, see also generative learning);
- enabling learners to learn how to learn;
- more open-ended evaluation of learning outcomes;
- and, of course, cooperative and collaborative learning skills.

Relationship to ALN: ALNs can effectively support constructivism because of their emphasis on access to resources (which learners can use for knowledge construction) and to the extent that collaboration is used as a means of community formation (in which learners can also build knowledge and test it through social negotiation). ALNs are not inherently constructivist; whether or not an ALN is constructivist depends on how the course is designed.

References on Constructivism

Jean Piaget is a Swiss psychologist who began to study human development in the 1920s. His proposed a development theory has been widely discussed in both psychology and education fields. To learn, Piaget stressed the holistic approach. A child constructs understanding through many channels: reading, listening, exploring and experiencing his or her environment.

Piaget's Stages of Cognitive Development

Approximate Age	Stage	Major Developments
Birth to 2 years	Sensorimotor	Infants use sensory and motor capabilities to explore and gain understanding of their environments.
2 to 7 years	Preoperational	Children begin to use symbols. They respond to objects and events according to how they appear to be.
7 to 11 years	Concrete operations	Children begin to think logically.
11 years and beyond	Formal operations	They begin to think about thinking. Thought is systematic and abstract.

A child will develop through each of these stages until he or she can reason logically. The learner is advanced through three mechanisms.

1. Assimilation - fitting a new experience into an existing mental structure (schema)
2. Accommodation - revising an existing schema because of a new experience
3. Equilibrium - seeking cognitive stability through assimilation and accommodation

President's Committee of Advisors on Science and Technology: Panel on Educational Technology [Online] (1997).

This report contains an excellent introduction to constructivism, with a focus on constructivism in an IT environment. Quoting from the book:

In recent years, however, many researchers have begun to focus on the potential of technology to support certain fundamental changes in the pedagogic models underlying our traditional approach to the educational enterprise. Within this "constructivist" paradigm:

- Greater attention is given to the acquisition of higher-order thinking and problem-solving skills, with less emphasis on the assimilation of a large body of isolated facts.
- Basic skills are learned not in isolation, but in the course of undertaking (often on a collaborative basis) higher-level "real-world" tasks whose execution requires the integration of a number of such skills.
- Information resources are made available to be accessed by the student at that point in time when they actually become useful in executing the particular task at hand.
- Fewer topics may be covered than is the case within the typical traditional curriculum, but these topics are often explored in greater depth.
- The student assumes a central role as the active architect of his or her own knowledge and skills, rather than passively absorbing information proffered by the teacher.

Some of the specific ways in which technology might be used within the context of the constructivist curriculum are outlined in Section 4.

Situated Learning

The main focus in the Computer-using Educators section of the OTEC Website is on the appropriate integration of IT into curriculum, instruction, and assessment. If this integration is done properly, the whole will be greater than the sum of the parts. That is, students can be learning both IT and a specific non-IT discipline such as language arts or science simultaneously. This occurs, for example, when students are doing Project-Based Learning and are using IT as both a research aid and as a presentation aid.

Over the past 20 years or so, a learning theory called Situated Learning has been developed. Some references that help to define this theory are given below. The focus is on learning by doing, and on addressing real problems. IT is a powerful aid to "doing" and to "addressing real problems." Thus, Situated Learning and IT work well together. Situated Learning and Constructivism are compatible and appear to be mutually supportive.

[Jean] Lave argues that learning as it normally occurs is a function of the activity, context and culture in which it occurs (i.e., it is situated). This contrasts with most classroom learning activities which involve knowledge which is abstract and out of context. Social interaction is a critical component of situated learning -- learners become involved in a "community of practice" which embodies certain beliefs and behaviors to be acquired. As the beginner or newcomer moves from the periphery of this community to its center, they become more active and engaged within the culture and hence assume the role of expert or oldtimer. Furthermore, situated learning is usually unintentional rather than deliberate. These ideas are what Lave & Wenger (1991) call the process of "legitimate peripheral participation."

Other researchers have further developed the theory of situated learning. Brown, Collins &Duguid (1989) emphasize the idea of cognitive apprenticeship: "Cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge." Brown et al. also emphasize the need for a new epistemology for learning -- one that emphasizes active perception over concepts and representation. Suchman (1988) explores the situated learning framework in the context of artificial intelligence.

References on Situated Learning

Quoting the abstract of the originally cited article:

Many teaching practices implicitly assume that conceptual knowledge can be abstracted from the situations in which it is learned and used. This article argues that this assumption inevitably limits the effectiveness of such practices. Drawing on recent research into cognition as it is manifest in everyday activity, the authors argue that knowledge is situated, being in part a product of the activity, context, and culture in which it is developed and used. They discuss how this view of knowledge affects our understanding of learning, and they note that conventional schooling too often ignores the influence of school culture on what is learned in school. As an alternative to conventional practices, they propose cognitive apprenticeship (Collins, Brown, & Newman, in press), which honors the situated nature of knowledge. They examine two examples of mathematics instruction that exhibit certain key features of this approach to teaching…

In the creation of classroom tasks, apparently peripheral features of authentic tasks--like the extra linguistic supports involved in the interpretation of communication--are often dismissed as "noise" from which salient features can be abstracted for the purpose of teaching. But the context of activity is an extraordinarily complex network from which practitioners draw essential support. The source of such support is often only tacitly recognized by practitioners, or even by teachers or designers of simulations. Classroom tasks, therefore, can completely fail to provide the contextual features that allow authentic activity. At the same time, students may come to rely, in important but little noticed ways, on features of the classroom context, in which the task is now embedded, that are wholly absent from and alien to authentic activity. Thus, much of what is learned in school may apply only to the ersatz activity, if it was learned through such activity.

The Adventures of Jasper Woodbury consists of 12 videodisc-based adventures (plus video based analogs, extensions and teaching tips) that focus on mathematical problem finding and problem solving. Each adventure is designed from the perspective of the standards recommended by the National Council of Teachers of Mathematics (NCTM). In particular, each adventure provides multiple opportunities for problem solving, reasoning, communication and making connections to other areas such as science, social studies, literature and history (NCTM, 1989; 1991).

Jasper adventures are designed for students in grades 5 and up. Each videodisc contains a short (approximately 17 minute) video adventure that ends in a complex challenge. The adventures are designed like good detective novels where all the data necessary to solve the adventure (plus additional data that are not relevant to the solution) are embedded in the story. Jasper adventures also contain "embedded teaching" episodes that provide models of particular approaches to solving problems. These episodes can be revisited on a "just-in-time" basis as students need them to solve the Jasper challenges.

…

The developers of the Jasper series have observed, as have other researchers in education and psychology, that classroom learning is very different from "natural" learning environments. Natural learning environments, like those in which parents help their children develop language, are often characterized as "contextualized." Participants, in this case the parent and the child, share a context, or a common frame of reference, in which the learning takes place. Additionally, in natural learning environments, the tasks the teacher asks the learner to perform are authentic. They arise naturally in the context, and the participants care about the outcomes. Finally, the knowledge that is being learned is often viewed as a tool to accomplish the tasks, and the learner sees it as valuable knowledge that can be used in new situations.

Roschelle, Jeremy. What Should Collaborative Technology Be? A Perspective from.

Situated learning (Greeno, 1989; Brown, Collins, &Duguid, 1989) is a stance holding that inquiries into learning and cognition must take serious account of social interaction and physical activity. A unifying concept emerging from situated learning research is "communities of practice"--the idea that learning is constituted through the sharing of purposeful, patterned activity (Lave & Wenger, 1989). This idea stresses "practice" and "community" equally. Knowledge is seen as practical capability for doing and making. Meaning is seen as a construction of a social unit that shares a stake in a common situation. As a consequence, learning is seen as a capability for increased participation in communally experienced situations--a dual affair of constructing identity and constructing understanding (Wenger, 1990).

…

Constructs from situated learning research and John Dewey's philosophy support a distinction between technological settings for collaboration and truly collaborative technologies. The key difference is the use of technology in the construction of shared resolutions to problematic experience. This requires the public use of the technology in a shared perceptual space where it can become an instrument of mutual knowledge construction for a group of people. It is through the skillful deployment of collaborative technologies that communities of practice can grow and learn.

Situated Learning in Adult Education

In the situated learning approach, knowledge and skills are learned in the contexts that reflect how knowledge is obtained and applied in everyday situations. Situated cognition theory conceives of learning as a sociocultural phenomenon rather than the action of an individual acquiring general information from a decontextualized body of knowledge.

Transfer of Learning

Teaching for transfer is one of the seldom-specified but most important goals in education. We want students to gain knowledge and skills that they can use both in school and outside of school, immediately and in the future.

Transfer of learning deals with transferring one's knowledge and skills from one problem-solving situation to another. You need to know about transfer of learning in order to help increase the transfer of learning that you and your students achieve.

Transfer of learning is commonplace and often done without conscious thought. For example, suppose that when you were a child and learning to tie your shoes, all of your shoes had brown, cotton shoelaces. You mastered tying brown, cotton shoelaces. Then you got new shoes. The new shoes were a little bigger, and they had white, nylon shoe laces. The chances are that you had no trouble in transferring your shoe-tying skills to the new larger shoes with the different shoelaces.

This example gives us some insight into one type of transfer of learning. Transfer occurs at a subconscious level if one has achieved automaticity of that which is to be transferred, and if one is transferring this learning to a problem that is sufficiently similar to the original situation so that differences are handled at a subconscious level, perhaps aided by a little conscious thought.

However, there are many transfer of learning situations that are far more difficult than shoe tying. For example, a secondary school math class might teach the metric system of units. From the math class, students go to a science class. Frequently the science teacher reports that the students claim a complete lack of knowledge about the metric system. Essentially no transfer of learning has occurred from the math class to the science class.

On a more general note, employers often complain that their newly hired employees have totally inadequate educations. Part of their complaint is that the employees cannot perform tasks on the job that they "should have" learned to do while in school. Schools respond by saying that the students have been taught to accomplish the tasks. Clearly, this is a transfer of learning problem that is owned jointly by schools, employees, and employers.

The goal of gaining general skills in the transfer of your learning is easier said than done. Researchers have worked to develop a general theory of transfer of learning--a theory that could help students get better at transfer. This has proven to be a difficult research challenge.

At one time, it was common to talk about transfer of learning in terms of near and far transfer. This "near and far" theory of transfer suggested that some problems and tasks are so nearly alike that transfer of learning occurs easily and naturally. A particular problem or task is studied and practiced to a high level of automaticity. When a nearly similar problem or task is encountered, it

is automatically solved with little or no conscious thought. This is called near transfer. The shoe-tying example given above illustrates near transfer. A major goal in learning to read is to develop a high level of decoding automaticity. Then your conscious mind can pay attention to the meaning and implications of the material you are reading. A significant fraction of children are able to achieve this by the end of the third grade.

Many potential transfer of learning situations do not lend themselves to the automaticity approach. There are many problems that are somewhat related, but that in some sense are relatively far removed from each other. A person attempting to make the transfer of learning between two such problems does not automatically "see" or sense the connections between the two problems. Far transfer often requires careful analysis and deep thinking.

The theory of near and far transfer does not help us much in our teaching. We know that near and far transfer occur. We know that some students readily accomplish far transfer tasks, while others do not. We know that far transfer does not readily occur for most students. The difficulty with this theory of near and far transfer is that it does not provide a foundation or a plan for helping a person to get better at far transfer and dealing with novel and complex problems. It does not tell us how to teach to increase far transfer.

In recent years, the low-road/high-road theory on transfer of learning, developed by Salomon & Perkins (1988), has proven to be a more fruitful theory. Low-road transfer refers to developing some knowledge/skill to a high level of automaticity. It usually requires a great deal of practice in varying settings. Shoe tying, keyboarding, steering a car, and single-digit arithmetic facts are examples of areas in which such automaticity can be achieved and is quite useful.

High-road transfer involves: cognitive understanding; purposeful and conscious analysis; mindfulness; and application of strategies that cut across disciplines. In high-road transfer, there is deliberate mindful abstraction of an idea that can transfer, and then conscious and deliberate application of the idea when faced by a problem where the idea may be useful.

References on Transfer of Learning

High road and low road transfer. Salomon and Perkins (1989, Perkins and Salomon 1987) synthesized findings concerned with transfer by recognizing two distinct but related mechanisms, the ``low road" and the ``high road." Low road transfer happens when stimulus conditions in the transfer context are sufficiently similar to those in a prior context of learning to trigger well-developed semi-automatic responses. In keeping with the view of Greeno et al. (in press), these responses need not be mediated by external or mental representations. A relatively reflexive process, low road transfer figures most often in near transfer. For example, when a person moving a household rents a small truck for the first time, the person finds that the familiar steering wheel, shift, and other features evoke useful car-driving responses. Driving the truck is almost automatic, although in small ways a different task.

High road transfer, in contrast, depends on mindful abstraction from the context of learning or application and a deliberate search for connections: What is the general pattern? What is needed? What principles might apply? What is known that might help? Such transfer is not in general reflexive. It demands time for exploration and the investment of mental effort. It can easily accomplish far transfer, bridging between contexts as remote as arteries and electrical networks or strategies of chess play and politics. For instance, a person new to politics but familiar with chess might carry over the chess principle of control of the center, pondering what it would mean to control the political center.

Salomon and Perkins have developed the high-road/low-road theory of transfer of learning. The article listed here provides a good overview of the domain of transfer of learning and how to teach transfer. It also contains an extensive bibliography, so it is a good starting point if you want to study the research on transfer of learning.

Transfer of Learning:

Transfer of learning is pervasive in our everyday life at work, at home and in the community. Transfer takes place whenever our existing knowledge, abilities and skills affect the learning or performance of new tasks. But what are the principles of effective transfer of learning? How can workplace instructors design training programs to facilitate transfer? What can the shop floor supervisor do to encourage transfer of learning? How should trainees or participants prepare for transfer back on the job? Given the centrality of this topic to so many areas of workplace education, this discussion paper will draw together the results of research and some practical techniques that will help practitioners in the field. It Is organized into four parts: 1) definitions of learning transfer, 2) factors influencing the transfer of learning, 3) integrating learning transfer into program planning and 4) strategies to enhance the transfer of learning. The report is summarized through a number of application exercises that challenges the reader to recall former workplace education experiences and interact with contents of the document.

ANALYTICAL APPRAISAL OF FUNDAMENTAL CONCEPTS IN EDUCATIONAL PHILOSOPHY: LEARNER, TRAINING, LEARNING, TEACHING, INDOCTRINATION AND INQUIRY.

Background

As part of the second phase of the Tuning project, the subject groups reflected on good practices in teaching, learning and assessment, in particular how teaching, learning activities and assessment can be best organised in order to allow students to reach the intended learning outcomes of a course of study. Biggs (2002) describes this as the 'alignment' of teaching, learning activities, and assessment with the intended learning outcomes of a course of study. The subject groups discussed the various approaches which are used or could be used in different subject areas, and provided a structured pan-European disciplinary-based context where an exchange of knowledge about approaches currently used or potential, could take place and where new understanding could be achieved.

1. Introduction

One of the key issues in higher education towards the end of the 20 th century was the debate about the respective virtues and requirements of traditional academic education and vocational education. Much of the debate took place within universities, particularly in the new context of the knowledge society. Many professions once wholly practiced by persons not holding a university degree saw increased demands for university training. One consequence was the introduction of more professional courses into the university system in some countries, and a greater emphasis on the utility value of university courses in those countries with a binary system. In many EU countries university academics have had to reconcile educational dimensions and professional requirements and manage the tensions that have emerged in trying to achieve this.

A second issue arose from new attitudes to personal rights partly resulting from EU legislation around human rights, freedom of information, data protection and so on. In the new spirit of openness students became much more conscious of what was offered, what was excluded, and what their rights were. This student awareness also brought the awareness that the possession of a university degree does not automatically confer employment – certainly not for life - in a rapidly changing Europe . In some countries employers, too, began to make greater demands on universities to describe better what students can actually do on graduation, not just what they know.

One response to these changes was to try and make transparent the relationship between university education and core or transferable skills. The most explicit response was the development of an 'outcomes' approach or a competence based model for curriculum development in universities. Two major schools of thought have emerged which can be broadly

divided into those approaches which emphasise higher education as a public good, versus those which also lay emphasis on the vocational utility of higher education. Tensions between vocational and public good approaches are to be found not only in Europe , but in the United States . One of the foremost educators in the United States argues that ' constructions of outcomes that are embedded within market approaches to education reform legitimize the dominance of "private goods" and undermine the view that public education is an enterprise for the public good in a democratic society' (Cochran-Smith, 2001, p. 50). The Tuning project does not seek to resolve this debate but, nevertheless, wishes to indicate its awareness of it.

A description of the long and complex development of changes in university education across Europe , particularly on the issues that have influenced curricular change, is beyond the scope of this chapter.

Europe requires its people to be culturally and intellectually equipped in ways appropriate both for their present and for their future. Only thus will they be able to lead meaningful and satisfying lives, personally and collectively. Institutions of higher education have a key role in developing appropriate strategies. It is the responsibility of higher education institutions to prepare their students, in a life long learning perspective, for a productive career and for citizenship. Universities and other higher education institutions increasingly have come to realise that theirs is a moving target, and that their leadership in the field of the elaboration and transmission of knowledge and understanding implies a new sensitivity towards developments in society. They increasingly look to consultation with their stakeholders on a regular basis. Education inspires progress in society, but at the same time it must respond, with foresight, to society, preparing adequate strategies for future programmes of studies.

The Tuning project's approach to setting up degree programmes and ensuring quality in their design and implementation combines both aspects. In phase I of the Tuning project the emphasis was on the process of consultation with 'actors' or 'stakeholders', the definition of academic and professional profiles and the translation of these into desired learning outcomes. Tuning identified indicative generic competences or transferable skills and described the then commonly used subject-specific competences in terms of knowledge, skills and understanding for nine subject areas. Tuning II has turned to the next step looking at how to implement competences, defined on the bases of identified requirements of society and foreseen social developments besides scientific developments in the subject area concerned, in terms of approaches to teaching, learning, and assessment.

2. The Tuning approach

In the Tuning project the decision was taken to make a distinction between generic competences (transferable skills) and subject-related ones, although it is accepted that key outcomes of university programmes will be subject related competences. Tuning I showed that an indicative sample of employers, graduates and academic staff were in broad agreement about which generic

competences, from a range offered in a questionnaire survey, are the more relevant ones, although they differed slightly with respect to the order of importance of some of them.

The importance of these generic competences is now widely understood, but understanding of the concept alone is insufficient. The true importance lies in the implications a competence-based approach has for teaching and learning. In other words, which appropriate modes of teaching, which learning activities might best foster competences in terms of knowledge, understanding and skills; and how do we assess these competences.

3. Definitions

One of the problems the Tuning members encountered in discussing approaches to teaching, learning and assessment on a European-wide scale was that every country, and even institution, has its own peculiarities and features deeply grounded in its national and regional culture. Each has its own written and unwritten rules about how to prepare students best for society. On commencement of a mapping exercise on the approaches currently in use or planned in different national systems or individual universities, it became clear that each has developed its own mix of techniques and kinds of learning environments, all of which are well founded, but which need to be mutually understood. It may be the case that the same name is given to different methods (e.g. 'seminar', 'lecture', 'tutorial') or, conversely, different names correspond to similar activities. Tuning has seen it as one of its tasks to create more clarity with regard to the issue of definitions and their understanding in practice. A comprehensive list of terms and their translations into to all European languages is being developed and this glossary will be published on the Tuning website at the end of 2005.

A wide range of teaching techniques is used in universities. The set of teaching techniques strongly depends on the instructional form of education (face to face education, education by correspondence or distance education). Apart from the ubiquitous lecture, the consultation revealed the following list (which is far from exhaustive)

Seminar (small group teaching)
Tutorials
Research seminar
Exercise classes or courses
Workshops (classroom based practical classes)
Problem-solving sessions
Laboratory teaching
Demonstration classes
Placement (internship/traineeship)
Work based practice
Fieldwork
Online / Distance or e-learning: which may be paper based or ICT based

Such lists are indicative only, and are really a list of categories of teaching activity, since how each is undertaken may vary widely not only between academics but within the everyday practice of any one academic, depending on the focus of the teaching and the intended learning outcomes for the students. The lecture itself can vary immensely in format and function. At one extreme it can be a turgid reading aloud of the lecturer's notes with students frantically trying to replicate these in their notebooks (the 'tops of your heads' approach to lecturing, since all that can be seen are the tops of the heads of lecturer and students). At another extreme, the students will have read the notes before the lecture on the intranet, and will participate in a presentation that fleshes out the notes supplemented by interesting examples provided by both lecturer and possibly also by students from their reading. The scope or function can also be quite different. A lecture introducing a new topic may provide an overview so that students can quickly become aware of who are the key players in this aspect of a field, how it has developed, and where current concerns are focussed. But not all lectures deal with broad scopes: one might, for example, use a lecture to fully explicate some key but complex concept, engaging students in some small group or individual problems at different points. Thus it is with all of the teaching techniques. The mere label is handy, but it does not tell exactly what the lecturer does.

One way of gaining some insights into the teaching techniques used is to look at what learning activities students are also required to do in a programme or part of a programme of study. As with teaching, learning activities called by the same name can differ quite widely. Apart from attending lectures (participating in lectures) or reading books and journals, the following (inevitably partial) list of commonly used learning activities gives some idea of the richness that is possible in aligned teaching and learning.

Conduct searches for relevant materials in libraries and on-line.
Survey literature
Summarize those readings which seem to be most relevant to their current needs.
Learn to pose problems as well as solve those set by the lecturer.
Conduct increasingly complex even if small scale, research.
Practise technical or laboratory skills.
Practice professional skills (e.g. in Nursing, Medicine, Teaching).
Research and write papers, reports, dissertations of increasing difficulty (in terms of size and complexity of the material).
Work with other students to co-produce a report/design/answer to a problem.
Prepare and make oral presentations, either in groups or individually.
Make constructive criticism of the work and others, and use the criticism of others productively.
Chair and participate usefully in meetings (of seminar groups, for example).
Lead or be useful members of teams.
Work under time constraint to meet deadlines.
Communicate questions and findings with others using a variety of media.
Learn to criticize their own work.

To complete the cycle of learning one must also look at how students' achievement of learning outcomes is assessed. Assessment is not just the rounding off of the teaching and learning period

but to a large extent a central steering element in those processes, and directly linked to learning outcomes. At one time, in some countries the oral examination was the most used method of assessment, while in others it was the essay. In a number of countries even today the essay remains a commonly used mode(s) of assessment. There is nothing wrong with essays as such, as long as the task set is appropriate to the unit of study and to its intended learning outcomes, and the lecturer has the time to mark them promptly and provide written feedback which is constructive and focussed. Nevertheless, the long written paper is only one of the options that the busy lecturer has at his or her disposal, and the main competence assessed is the ability to research and write such papers in the appropriate genre: useful academic skills, but not the only ones students need to develop and demonstrate the ability to perform.

Most programmes described in Tuning use a range of modes of assessment at different points in the programme. Coursework assignments, which may be formally assessed and graded - or not - assess student performance as the programme or part of it progresses. These may include the following, but again this is not an exhaustive list, merely that which arose from the Tuning work.

Tests of knowledge or skill.
Oral presentations.
Laboratory reports.
Analyses, e.g. of texts, data.
Performance of skills while being observed e.g. in work placements, laboratories.
Work placement reports or diaries.
Professional portfolios.
Fieldwork reports.
Written essays or reports or parts of these, e.g. a written review of relevant literature; a critique of contrasting research papers
Central to all of these ways of assessing student work during a programme is feedback. The assessment is said to be formative , because the students learn by doing the work and then having the lecturer comment on how well they have achieved it, where they have done less well, how to improve, and what steps might be taken to do this. To further enable students to achieve the task successfully it is increasingly the case that students are given the criteria for success at the outset: a specification of what they have to do in order to complete the task satisfactorily.

Of course, in any programme of study, or parts of it, there is a need for summative assessment. Sometimes the coursework discussed above performs both a formative and a summative function. The grade given is the summation of the student's achievement in that element, and the feedback from lecturer – and sometimes peers as well – is the formative part.

Traditionally, however, and still commonly used for a variety of reasons, there are some forms of assessment which are usually only summative: they assess achievement at the end of a programme or part of it, and students may receive only their mark or grade (which does have its formative aspect!) rather than feedback from the lecturer. If the examination has a follow-up

seminar or tutorial to discuss the results it then contains a greater amount of the formative function.

Some form of invigilated examination is the usual format for summative assessment; this may be written or oral. Written examinations have the virtue of cheapness and security: a large cohort can be examined at the same time, while oral examinations can probe a student's learning in ways that a written format normally does not allow.

Written examinations can take a wide range of formats, including the following short list of common ones

Essays.
Multiple choice questions.
Problems to solve (e.g. in mathematics, physics, linguistics among others).
Analyses of cases/data/texts.
Literature reviews e.g. based on memory, or open book or takeaway procedure.
Oral examinations can also have a wide range of formats, within the following two categories

Oral questioning by (usually) more than one lecturer
Demonstration of a practical skill/ set of skills
It goes without saying that almost any form of assessment can have a diagnostic function for both student and lecturer. By seeing what has not been achieved, what has been achieved with little effort, what is excellent, and so on, both the teacher and the learner know where more work is needed or where effort can be diverted.

So far, the project based dissertation or thesis has not been mentioned. This is an example of a complex mode of assessment, widely used across Europe in every subject area, and in all degree cycles in varying levels of complexity, and with different purposes at each level. The thesis is a summative assessment of a programme or substantial part of a programme, demanding the demonstration of a range of competences and understanding. It is also strongly formative in that it is normally prepared under the supervision of a lecturer, who advises the student on the work, and certainly provides feedback at different stages of its development. The summative examination may be oral or written i.e. based on the text. At doctoral level the final examination of the thesis is always by an oral examination (the defence of the thesis), although the format of this may vary quite widely from country to country, but in the lower two cycles assessment of projects and dissertations may be based on the student's written document alone.

In many institutions guidelines and requirements have been developed for the assessment of learning at different programme levels, as well as for preparing final theses. In particular, it is becoming the norm to publish the criteria for success in assignments, something which should be universal. Many Tuning members reported that their departments were instituting procedures for fair assessment. European wide guidelines (1)are now emerging, which say, for example,

Be designed to measure the achievement of the intended learning outcomes and other programme objectives;
Be appropriate for their purpose, whether diagnostic, formative of summative;
Have clear and published criteria for marking;
Be undertaken by people who understand the role of assessment in the progression of students towards the achievement of the knowledge and skills associated with their intended qualification;
Where possible, not rely on the judgements of single examiners;>>
Finally, when discussing assessment issues across different cultures, it is important to probe the different ideas about what should be taken into account in assessment vary. For example some systems prize hard work, others high achievement, others high potential. This underlying value system is easily forgotten in a straightforward description of what modes of assessment are used, but in a 'mobile Europe ' is one which should be better understood.

4. The Tuning II consultation

To obtain a better overview of possible learning, teaching and assessment strategies based on a learning outcomes / competence approach, Tuning II organized an extended consultation among its members. Each academic involved in the project was asked to reflect on a given number of subject-specific and generic competences and to identify ideas and best practices to develop these competences in a degree programme in terms of learning activities, teaching, and assessment. They were asked to find answers to the following five questions:

What does this competence mean for your students?
How do you help students to achieve this competence in your teaching methods?
What learning activities do your students engage with in order to develop this competence?
How do you assess whether, or to what degree, they have achieved this competence?
How do your students know whether or to what degree they have achieved this competence, and if not, why they have not achieved it?
Tuning members followed different strategies to find reliable answers, including consultation with colleagues in their home institutions. Most subject groups identified possible strategies either based on ideas or real experience. While some reported actual practices, others described how current good practices could be linked to new concepts of competences, and so reported on future possibilities rather than on present practice.

Across Europe , it is clear that there are two main ways of teaching or enhancing generic competences. The first is the provision, as part of a degree programme, of separate course units / modules to enable students to master at least part of the generic competences. In this respect one could think of, for example, academic writing and oral skills and ICT-competences. The second way is for generic competences to be developed as part of or integrated into subject programmes and modules. Through the consultation process it became clear that it is possible to foster generic competences while teaching normal subject area material if there is awareness of the need to do so and if teaching strategies are designed taking generic competences into account. In general,

since different approaches to learning, teaching and assessment tend to form or enhance different generic competences, Tuning members underlined the requirement that each student experience a variety of methods.

5. The consultation process on generic competences

On the basis of the materials prepared and presented by the different subject area groups in Tuning, an overview is offered of how certain specified generic competences are perceived, what teaching/learning methods are or could be used to encourage their development, and how they are assessed. Further aims are to see how they are perceived by (or, possibly, what their importance is for) students and to investigate whether there are teaching learning methods used in some disciplinary areas, or in some countries or in some institutions which can usefully be proposed as models of good practice or which can be of interest more generally in developing new insights into competence-based curriculum design and delivery.

It is striking to see how differently some generic competences have been understood in the context of the various subject area groups. Sometimes strong differences can be noted between different national traditions within a single subject area; however it is more common to observe strong differences in perception and methods between different subject areas.

It seems clear from an examination of the answers gathered that generic competences are always interpreted in the light of the disciplinary area. Even in cases in which the graduates or a relevant number of them will almost certainly be expected to work in areas not directly related to the subject in which they will receive a degree, the academics' perception of the generic competences remains quite tightly tied to the subject area disciplines themselves.

The first consequence of this observation is that in practice the generic competences do not appear to be rigidly separate from the subject specific competences. Rather they appear as further variations to be considered within the range of the subject specific competences. An additional consequence is that for each generic competence a distinction must be made between disciplinary areas in which the competence is considered important or even fundamental, a priority for the discipline, and those in which its connection with the subject area is less clear.

The consultation focussed on a selection of the thirty generic competences identified by the Tuning project. From these eight were selected for discussion in this paper:

Capacity for analyses and synthesis.
Capacity for applying knowledge in practice.
Basic general knowledge in the field of study.
Information management skills.
Interpersonal skills.
Ability to work autonomously.

Elementary computer skills.
Research skills.
Capacity for analysis and synthesis

No clear-cut definition of the capacity emerged from the consultation but it was evident that the Subject Area Groups (SAGs) defined analysis and synthesis in a very wide sense. The Business Studies SAG listed among others the elements of identifying the right research question or problem, the ability to describe as well as to conclude and formulate recommendations as indicators. The Education SAG also took into account the reflective ability of a student and the ways in which this demonstrates the capacity for description, analysis and synthesis. The Mathematics group highlighted that a student should use her/his analytical competences when confronted with a problem, and think whether they could relate this to one they have faced before. If this is the case they should 'find out whether the same hypotheses holds water' so that previously achieved results can directly be applied. If not, students should find out what they could use from past experience and start there to develop new approaches to solving the problem. In this context a student would enrich her/his synthesis competence by extracting the key points from their solution, so that they can be presented in a clear, concise and nevertheless complete form.Other SAGs defined analysis in a way which seems to comprise all these indicators as activities, i.e. this generic competence enables the student to understand, evaluate und assess information which has to be collected, interpreted and the main issues identified. It demands logical thinking, using the key assumptions of the relevant subject area and even the development of this area further by research. In no SAG was the acquisition of this skill taught in a separate element or module, i.e. this generic competence is embedded in any subject, in any module of teaching and learning.

This view was also supported by the perceptions of students. Data collected from students showed that they attached great importance to this competence as it enabled them to relate theory and practice, evaluate findings logically and use instruments to find out alternative ways; they perceived it as being highly pertinent to their future professional career.

For the description of the competence a large number of expressions were used: to interpret, to find the main points, to understand, to evaluate, to deal with information, to evaluate critically, to marry theory and practice, to organise information, to understand, to place in context, to develop objectivity, to combine, to research, to formulate, not just reproduce, to apply, to describe, to conclude, to think, to compare, to select, to differentiate, to contrast, to break down, to summarise, to argue, to relate, to generalise, to think logically, to think rationally, to appreciate, to consider, to predict, to provide, to solve. This wide definition is essential as it relates directly to the teaching and learning activities which enable students to achieve this competence. It is highlighted that the competence is directly related to the ability to solve problems, another highly ranked generic competence.

It was reported that students develop the capacity for analysis and synthesis through

formulating ideas of a concept as a result of the reading, researching, discussing and brainstorming in highly specific, subject-focused work, either academically and professionally oriented;
learning to describe objectively, categorize, relate categories;
making independent autonomous interpretations, evaluations, distinctions and differentiation and sharing insights from learning through debates, theses;
becoming aware of their own, and challenging others', taken-for-granted assumptions;
revealing links between contemporary concepts;
quantifying information;
applying relevant theory to source material;
incorporating new conclusions into existing knowledge;
placing specific events and/or problems into wider contexts;
giving proof and / or counterexamples.
Assessment of the extent to which this competence has been achieved varies according to the way in which it has been developed. In some SAGs this was done partly through group meetings and discussion sessions. The assessment can also be based on how students analysed material or information. In the Education SAG a variety of modes of assessment were identified: discussion, questioning, observation, evidence of personal and professional engagement, supervision of reports, active participation in placements, essays, assignments, projects, examinations, theses.

Students may also contribute to their assessment by submitting or presenting a "self-evaluation" at the end of the semester. Feedback is organised through group discussions or individually, whether in writing or face-to-face.

SAGs also highlight that students identified a number of ways by which they would know if they had achieved this competence, such as

feeling more competent and confident to put forward an opinion;
being able to relate research findings to theory and / or their own circumstances;
having no problems in writing essays and reports on findings from reading and research;
feeling free and able to criticise or critically evaluate presentations, reports etc. of others;
feeling more comfortable in receiving criticism themselves.
Capacity for applying knowledge in practice

In some cases this competence is described in more general terms, such as “facing concrete problems by using basic concepts”. In most cases, however, it is described as the ability to perform specific academic tasks, which may vary according to the discipline. In initial teacher education there is a clear projection into the future teaching profession. In the second cycle this competence is often described in more professional terms, and may be more closely associated with activities to be performed in the workplace such as collecting information from diverse sources and writing a report on a complex issue.

The different teaching methods used to help the students achieve this competence reflect different approaches to practice. Accordingly, the opportunities for practice provided inside and outside the institution are described differently in the various disciplines, as exercises of various types, practical classes, lecture sessions, seminars, field classes, laboratory sessions, industrial projects, industrial placements, study visits, field excursions, student teaching practice. Some disciplines suggest that this competence can be best developed by doing a project or writing a thesis. Others, like Business Studies, Chemistry, Mathematics and Education emphasise the need to provide appropriate tools and methods as well as opportunities for problem solving. The Education group emphasises the importance of reflection on work done. Earth Science (Geology) reported the centrality of this competence to the development of subject knowledge.

Sometimes the learning activities intended to develop this competence are carried out in connection with the world of work. In Business Studies, reference is made to course related tasks/reports carried out with mentor/sponsor companies, to theses based on actual problems from companies or organisations and to guest lecturers. In Physics, Chemistry, Business Studies (among other subjects) final year projects can be carried out (partially or totally) in an industrial environment, and in Nursing and Education there is a substantial practical component. Learning activities for this competence may also be carried out within the academic learning environment, performed by whole classes, small groups and individual students.

I t is traditional in Earth Science to have students undertake a mapping thesis involving some six weeks applying their knowledge in the field working either autonomously or in a small group, usually with limited supervision. The resultant report on this independent work can comprise a significant component of the final exam and is considered extremely important by employers.

Continuous assessment of progress is based on seminars, exercises of increasing complexity, laboratory work, short oral presentations, teaching practice, assignments, regular meetings with the teacher for evaluation and feedback on the project. For some courses, only a part of the marks are given for coursework, in other cases coursework completely replaces the traditional examination. This may be particularly true in the second cycle. Final exams can be written and oral tests including practical problems/questions, or proficiency tests in class or laboratories regarding practical problems. This competence can be assessed through the essay format provided that the task set is clear and well constructed. A three part model for a task might include a requirement to outline the theoretical bases of the issue; a requirement to outline relevant issues to do with implementation in practice; and illustrations of how this is done, or would be done, in the working context of the candidate. A simple statement of the topic, with the laconic instruction 'Discuss' would not probe how far this competence had been developed. It would not examine content knowledge very efficiently, since the topic would be too large to deal with, and there might even be a danger of plagiarism, or at least over reliance on the source materials).

Generally students understand whether or to what degree they have achieved this competence from the feedback they get from the teachers, either on progress made during the course or on their final products and exams.

Basic general knowledge in the field of study

This general competence is the one most obviously linked to the single subject areas. In fact, since it has been designated clearly as basic general knowledge "in the field of study", it seems clear that this was not intended really as a generic competence at all, but rather as a basic level of subject specific knowledge. Hence in the abstract one might expect that the ways of forming this competence would be different for each area, tightly linked to the specificities of the subject. In practice this is not entirely the case. Basic general knowledge is perceived as having three aspects: the first, the basic facts ; and second the basic attitude considered specific to the subject area. The third aspect is constituted by related or necessary general knowledge which is not strictly subject specific: e.g. knowledge of maths or a foreign language for physicists and of history and politics for education students. Little space is given in the reports to considering whether the basic general knowledge of the subject at first cycle level might in some cases and to some degree be acquired in school or previous to the higher education experience, and hence be assessed at entry and integrated or completed during the higher education experience in a selective way. Normally for first cycle study universities are very familiar with the school curriculum and have a good idea of what is covered, particularly in the pre-university period. However, in Physics, the subject area group states that the maths knowledge and capabilities obtained in upper school are evaluated at entry in higher education. Another exception is Education, where mature students wishing to enter a teacher education programme may present a portfolio of evidence to show that their qualifications both formal and non-formal are appropriate for entry. This approach, known as Accredited Prior Experiential Learning, is used across Europe .

Basic general knowledge for most subject areas is learned through lectures, reading, discussions, library and Internet searches and assessment through written or oral examination. Discussion of papers, exam results or discussion during the oral examination is thought to make students aware of whether their basic general subject knowledge is adequate. Great effort does not seem to be put into thought and reflection about this aspect of learning; it is accepted by all concerned as necessary, largely a matter of factual and conceptual knowledge. Naturally the pan-European context of Tuning shows that in some subject areas the content of this basic general subject knowledge varies quite radically from country to country, although in others there seems to be relatively little difference. However, in most subject areas there is general agreement about the core subject knowledge of first cycle degrees.

It is more complicated to develop or foster the other component of basic general knowledge, the mindset of the discipline, its values, and its methodological or even ethical base. However here a number of strategies were mentioned by the SAGs. Some aspects (rigour of analysis, ethical

values and intellectual standards) are discussed in lecture courses, and presumably are criteria for success in assignments. The objective in this case is to tell students what the standards and the values of the subject area are. Students also acquire the mindset of the subject area through their reading, where they constantly see models of how their subject community thinks; they will also gradually see how the different schools within the subject community think and what their attitudes are. In the subject areas that have discussed this general competence, we find that the mindset or attitude, intellectual and ethical values considered fundamental to the subject are also thought to be encouraged by hands-on learning experiences, such as laboratory work in physics or experience in analysis of historical documents in history, preparation of oral presentations, reports and posters in education.Information management skills (ability to retrieve and analyse information from different sources)

This competence is fairly uniformly understood to mean knowing how to find information in the literature, how to distinguish between primary and secondary sources or literature, how to use the library – in a traditional way or electronically – how to find information on the Internet. One subject area, history, devotes much specific attention to the various kinds of sources of information and techniques for accessing them and interpreting them (indicating archival documents, papyrus, archaeological materials, secondary sources, oral history and so forth) as well as to the more usual kinds of information listed by the other subject areas. In this particular subject area a variety of activities, lectures, workshops, site visits, group and individual work including final research dissertations are seen as connected to this general competence.

In all subject areas there are specific teaching-learning activities devoted to learning library skills. Some of these activities may organised in conjunction with the library staff and have the form of visits to the library or library workshops. Retrieval of information from the Internet and its critical evaluation may be demonstrated in a lecture context with multi-medial support, followed by assignments of student tasks and evaluation of the results. Information retrieval skills are seen as progressive: in one report it is mentioned that in the beginning of the higher education experience students are encouraged to use reference books to supplement the information they receive from lectures, whereas by the time students complete their studies, they should have brought their library and other information retrieval skills up to research level.

In all subject areas, the central activities seen as conducive to this competence are those in which the experimental or research component of the subject is being developed, in order to see whether the student is able effectively to use the library or whatever other appropriate sources of information to supplement his/her individual work. For example, in chemistry, as the student works in the laboratory, he/she may have to have recourse to the literature (on different levels according to the level of study) in order to interpret the laboratory results or to guide in the design of laboratory analyses. In history, the student is required to read and analyse documents of various kinds and to contextualise them using the bibliography and published sources. Such exercises will be more or less elaborate and more or less original according to level of study. In earth science students are asked to organise presentations, written or oral, of the material collected and to show that they have interpreted it properly using the relevant literature.

Feedback on students' efforts is perceived as particularly important for this competence, and is in the form of written or oral comments on student work. On the basis of the reports it seems that the subject areas have a clear perception of the importance of this competence and that it is developed and assessed – to varying degrees of complexity and characteristics that are determined by the subject area – in all disciplinary studies.

Interpersonal skills

This competence is seen as central to three subject areas, Education, Nursing and Business Studies, all of which in one way or another provide specific activities to develop what is perceived as an important competence for the subject area as well as an important general competence. For the other subject areas, this competence is perceived as useful or necessary for survival, citizenship and employment, but not subject related – and according to some reports not even very important.

In Business Studies the means mentioned for developing these skills are group work, presentations, specific lectures, training-coaching course. A specific kind of activity is a computer-based Business Studies game in which groups of students must act out realistic business scenarios, working in groups and dealing with issues of group dynamics, time management, decision making and so forth. Nonetheless, it is stated that except for the actual performance in such activities, there is little knowledge of how to evaluate and assess interpersonal skills and that this competence needs further work.

In Education and Nursing, the interpersonal skills cluster of competences is at the centre of reflection. In fact, in a very meaningful sense, for many graduates of Education and Nursing their work is an entirely interpersonal activity. In Nursing particular communication aspects are key skills, such as presencing, observation, listening, asking questions, non-verbal communication, ability to have conversations with different groups of interlocutors, leading and participating in meetings. These skills are often contextualized in written practices, including, for example, preparing written health promotion materials for different audiences.

In Education, there also is a great awareness of the different aspects that this competence has. Interpersonal skills are defined as including not only the ability to work in a group, to present one's projects effectively and possibly to develop leadership skills – here emphasis is placed on the dialogic nature of interpersonal skills and of the teaching-learning process. Aspects considered are, very significantly, 'listening' (not mentioned by any other group except Nursing), verbal and non-verbal communication, ability to guide discussion groups or to work in them; to deal in a civilised way with people from a wide variety of backgrounds; to conduct interviews; to create interactive teaching and learning environments. SAGs noted that students should be and will inevitably be in possession of many interpersonal skills when they start higher education; however the considerations of the Education and Nursing groups underline that the higher education experience must add substantially to those competences, and must indeed give a whole

new cast to them. This will not surprise given the importance of interpersonal abilities for those fields

The ways in which such competences can be developed start from making students aware of the fact that they have much to learn in this field, i.e. with encouraging a self-critical evaluation of their existing knowledge and behaviour patterns. Another important aspect is for the student to find out whether what they believe they said was understood that way by others. An aim of these activities is to develop awareness and confidence in their interpersonal know-how in the students. There is also a more 'knowledge based' aspect to the development of interpersonal skills which is the subject of reading and research as learning activities. All the competences developed are put into play in practice when the students actually enter the workplace in a training setting. Students in this case will observe role models in action and analyse what they see and hear; students also keep a personal diary or log of their experiences and observations.

Results can be assessed fairly effectively in the context of the activities mentioned. Some teachers consulted by the Education group were sceptical about whether these skills could really be taught and learned formally or accurately assessed. However, most teacher education programmes make use of competence-based assessment procedures to assess the classroom practice elements of courses. These include formal assessment of the students' competence in interpersonal areas such as questioning, classroom management, teacher-pupil relations, and teamwork with colleagues and so on. The strategies outlined certainly have the merit of creating an environment in which interpersonal skills can be explicitly considered and their development targeted.

It is stated that students are aware of whether they have been successful in acquiring the appropriate interpersonal skills when they feel confident in groups and in their practice teaching. This feeling of confidence may be of varying value in different countries as an indication of successful achievement. The perception and feedback of others, particularly learners, would seem to be more significant. The importance and range of communication skills for Nurses is made explicit in programme outlines and assessment procedures.

Overall, on the basis of the reports available, it appears that interpersonal skills may not be taken sufficiently into consideration by higher education academics, with the exception of those in whose subject area those competences or skills are thought to be fundamental. This is not surprising, considering that interpersonal skills are perhaps exactly the kind of competence that traditional university education ignored and which nonetheless are of great importance in the educational process. It was assumed that students would 'pick up' appropriate interpersonal skills as they progressed to maturity. This may be the case in wholly mono-cultural contexts, but how many of those are there in 21 st century Europe , or, indeed, 21st century anywhere? It is not proposed here that all subject areas imitate the Education, Nursing and Business Studies SAGs in the emphasis given to this group of skills and competences, nor that the same teaching and learning strategies be used. However, students in all subject areas would benefit if programmes

were to address more explicit, analytical and practical attention to this group of competences because there is no doubt that whatever employment a graduate will find, these skills will be of use to them. Hence a useful direction of endeavour to educate the educators could be to develop awareness, both in our capacity as teachers and as learners, of this group of skills.

Ability to work autonomously

The ability to work autonomously is prized in all subject areas. Naturally in real life - post graduation -- the ability to organise available time, choose priorities, work to deadlines and deliver what has been agreed on, is essential for personal and professional life and citizenship in general. At present, the main methods reported of developing this competence in students are, in the initial stages of higher education, to ask the students to use methods other than lectures (e.g. library, field work) to learn to work autonomously; and in the final stages of the course of study, to give the student a great deal of autonomy. Some recommendations are made not to harass students with many small deadlines, or to give constant reminders of deadlines, letting the students learn to organise their time by having to do it. The final paper or dissertation is seen as a particularly useful means of ascertaining whether the student has learned to use time and organise complex tasks effectively.

Experience shows that national traditions are very different in the attitudes and practices with regard to student autonomy. In some countries, particularly where students are more mature when they start their studies, they are considered to be adults from the very beginning, attendance is not mandatory and deadlines are quite flexible, going to the point of giving students the opportunity of staking all on a final exam – for a course, for a year, or even for an entire course of study. The other extreme is based on a closely structured course organisation in which students are given specific study tasks which are checked during the semester (writing papers, or reading and studying certain material on which the student is tested) according to a strict time schedule, often coordinated with other time schedules in the department or Faculty to avoid overlap. In this case the basic strategy is to insist on the student having accomplished the task on time, in a context perhaps reminiscent of school organisation, but perhaps without the leeway permitted in school. It is interesting to see, in fact, that for some the ability to work autonomously can be developed by a sink or swim strategy, whereas for others, it can be accomplished by enforcing and insisting on the respect of a framework of task organisation decided by the teacher.

Elementary Computer Skills

As part of formal programmes of study in most subject disciplines students are required to be appropriately skilful in aspects of computing and information technology.

Within programmes of study in different subject disciplines this competence may be seen as one or more of

a competence designed to support current study of the discipline,
a competence to enhance future employability
a competence to enhance lifelong learning
Under each of these the content, emphasis and weight within the curriculum will vary considerably with the subject discipline. At one extreme, it may be assumed that students have the necessary competence on entry to the programme or that they will informally acquire necessary competences as they progress through their studies. This is likely to be the case where computer skills are seen only as a relatively elementary skill, both in terms of supporting study and enhancing future employability.

Not all SAGs focussed on this competence in the consultation, even though their subject is one were computer applications are very widely used, e.g. Mathematics. Those SAGs which did address this competence emphasised that the objective is that the student feel confident to approach and use a computer for any type of activity required by the subject curriculum. Detailed responses reported the need for students to be able to create and store information on any media, e-mail, search on the web, and specifically have experience in data logging of experimental apparatus to a computer and processing of the resulting data, use subject specific software (Chemistry). Word processing or special software to present in words or graphics (plotting) or calculate, evaluate and access information wherever it is available (Physics).

Students are also increasingly asked to become familiar with learning spaces to make use of new forms of e-learning via facilities such as the use of communications networks and new educational technologies. Modern e-learning management systems usually use special facilities such as virtual learning environments (e.g. WebCT, Blackboard), newsrooms, direct web-links (Education).

The competence is also a requirement for writing papers such as theses, dissertations in an adequate format, fulfilling all academic standards in terms as footnotes, literature and source review (History).

Students receive both, formal lectures and the opportunity to apply their knowledge in computer laboratories to develop their computer competences. Some SAGs report the initial provision of free access sessions after which specifically subject oriented instruction is given. Others perform an audit of the students´ skills at the commencement of the course and their subsequent ICT development will be self-selected with personal tutor help (Education). Formal lessons are sometimes scheduled much later in the programme (2nd or 3rd year), when specific software is being introduced. However, most of the time, basic courses are provided at the beginning of programmes by the institutions, sometimes in the format of an intensive short programme.

Web evaluation is also considered an important way of developing computing skills in a wider sense. Typically such teaching and learning sessions would start with a class-based task using an

on-line site and generate student criteria for evaluation which are discussed and categorised. Some lecturers then steer students towards finding other evaluation sites as part of web search skills, others give out lecturer-selected criteria. These evaluation criteria will be tested by referring to identified web-sites.

According to the Education group(2), forms of teaching and learning to develop the computer competences of students include: self accessprogrammes of self learning; voluntarily attending taught elements linked to the various skills, graphics, web evaluation, etc. as outlined above; modelling good practice, e.g. by giving URL references for students to follow up, by providing examples of good presentations etc.; requiring the production of student work in various appropriate formats, often with links being established to resources available on-line;
asking students to find literature in various libraries via computer; communicating information about the programme organization in an electronic format only, e.g. by intranet; applying quality criteria to web-sites.
Assessment of developing computer skills is based on requiring students to demonstrate evidence of the competence e.g. by asking the students to write a presentation for interactive classes using various computer software applications (Business Studies). In Education all activities for early development of ICT skills focus on skills development rather than knowledge or awareness. These include that students be given a task for which some missing information is available on a lecturer-made database - or they have to develop an adequate database for some given information; see a presentation of the "skill" and then are set a task to apply it themselves; have to use browsers or search engines to deliver required information; have to present papers and to be assessed on the computer based competences in the delivery.
Where skills are assessed, students are informed about their achievements by grades and oral feed-back. Reference is made to all tasks students had to perform, covering demonstrations in supervised computer laboratory sessions, assigned computer based tasks, practical laboratory reports on experiments and even the final year project report (e.g. Bachelor thesis). In Education there is also the comparison made with the acquired competences at the end of a study-programme with the results of a self-evaluation audit in case the student had to do it at the start of her/his university programme.
When describing this competence SAGs use the following verbs: to feel confident in approaching, to create, to store, to make familiar with, to search, to draw, to use, to match, to enter, to produce, to save, to alter, to cut and paste, to format, to link, to conduct, to assist, to illustrate, to evaluate, to generate, to communicate, to browse, to interact, etc.
One group for whom computer use may be problematic are mature students entering university for the first time. Schools nowadays teach computer skills, and both soft- and hardware have changed out of all recognition in the past 10 years. Mature students may not, however, be computer literate, and may not feel confident enough to ask for help.

Research skills

All SAGs agreed about the importance of research skills especially, but not only, for the second cycle. However some differences emerged in the meanings attached to this in the various disciplines. While Education and History emphasise knowledge of different research methods, Physics focuses on knowledge of the techniques used in a particular research field and Chemistry also refers to designing specific projects and evaluating their results.

No clear distinction was stated between learning how to do research with the help of a teacher and learning how to do research through the activities related to a personal research project; yet in scrutinizing programme descriptions collected, it was quite clear in Education and Nursing, at least, that specific units addressed the development of research knowledge and skills, especially in the second cycle. This is in addition to the integrated evidence based teaching that Educationists and Nursing specialists espouse. Since research competence is developed by following these two parallel paths, (in addition to continual exposure to research through reading research reports as part of programme requirements), it is sometimes difficult to draw a clear line between the teacher's role and the learners activities: The lecturer's contribution would mainly consist in presenting methodological approaches, creating an awareness of the research context, i.e. the social, biographical, and cultural background of all participants in a research project, providing input and setting up activities for the learner, who will perform these activities and will regularly get back to the teacher for advice, further input and feedback on the work done. Lecturers set up research methods courses/seminars or practical reading/writing workshops; create exercises where students conduct qualitative and quantitative data collection and practice modes of analysis, provide bibliographical materials and documents, and encourage further literature searches and links to materials already studied as part of other elements in a programme; continue to guide the reading and critical analysis of existing research/documents; supervise essays, projects, thesis; organise visits to libraries/ archives. Students participate in courses, seminars, workshops; develop a research project/thesis; review existing literature and do documentary research; collect and analyse data; obtain advice during thesis work; present and discuss work in progress; respond to and engage with commentary and critique (both written and oral); present results in class and comment on the work of colleagues; write a stipulated number of pages; and at doctoral level in all countries, defend the thesis in the presence of experts, often from the 'real' world, or in an international context.

Given the types of activities performed and the regular student/teacher interaction, there is a close link between assessment by the teacher and learners' awareness of progress made. There is agreement on two main points: first, assessment is based both on achievement during the research process - such as quality of written work submitted, participation in group activities - and on the quality of the final product - such as originality, the ability to gather documentary evidence in support of the argument, clarity and independence of thought, concern for coherence and objectivity, clarity of presentation; second, regular feedback is provided both on process and product from academic supervisors and often from peers as well.

6. Conclusions

The comparison of approaches to learning, teaching and assessment from the viewpoint of subject areas on a European wide scale is a new step forward in making higher education transparent. This brief overview suggests that although complex, the task is entirely feasible, given good will and good listening competences.

Unit - II: Major Philosophical Schools (12 hours)
Idealism,
Naturalism,
Realism,
Pragmatism,
Existentialism
Study of the mentioned philosophical schools with special reference to their basic principles, aims, curriculum and teaching methodology

Idealism:
Idealism is the category of philosophical systems that claim reality is dependent upon the mind rather than independent of the mind. Extreme versions of Idealism deny that any 'world' exists outside of our minds. Narrower versions of Idealism claim that our understanding of reality reflects the workings of our mind first and foremost - that the properties of objects have no standing independent of the minds perceiving them.

Important Books on Idealism:

The World and the Individual, by Josiah Royce Principles of Human Knowledge, by George Berkeley Phenomenology of Spirit, by G.W.F. Hegel

Important Philosophers of Idealism:

Plato Gottfried Wilhelm Leibniz Georg Wilhelm Friedrich Hegel Immanuel Kant George Berkeley Josiah Royce

What is the "Mind" in Idealism?:

The nature and identity of the "mind" upon which reality is dependent is one issue that has divided idealists of various sorts. Some argue that there is some objective mind outside of nature, some argue that it is simply the common power of reason or rationality, some argue that it is the collective mental faculties of society, and some focus simply on the minds of individual human beings.

Platonic Idealism:

According to Platonic Idealism, there exists a perfect realm of Form and Ideas and our world merely contains shadows of that realm.

Subjective Idealism:

According to Subjective Idealism, only ideas can be known or have any reality (it is also known as solipsism).

Transcendental Idealism:

According to Transcendental Idealism, developed by Kant, this theory argues that all knowledge originates in perceived phenomena which have been organized by categories.

Absolute Idealism:

According to Absolute Idealism, all objects are identical with some idea and the ideal knowledge is itself the system of ideas. It is also known as Objective Idealism and is the sort of idealism promoted by Hegel. Unlike the other forms of idealism, this is monistic - there is only one mind in which reality is created.

The term metaphysics literally means "beyond the physical." This area of philosophy focuses on the nature of reality. Metaphysics attempts to find unity across the domains of experience and thought. At the metaphysical level, there are four* broad philosophical schools of thought that apply to education today. They are idealism, realism, pragmatism (sometimes called experientialism), and existentialism. Each will be explained shortly. These four general frameworks provide the root or base from which the various educational philosophies are derived.

* A fifth metaphysical school of thought, called Scholasticism, is largely applied in Roman Catholic schools in the educational philosophy called "Thomism." It combines idealist and realist philosophies in a framework that harmonized the ideas of Aristotle, the realist, with idealist notions of truth. Thomas Aquinas, 1255-127, was the theologian who wrote "Summa Theologica," formalizing church doctrine. The Scholasticism movement encouraged the logical and philosophical study of the beliefs of the church, legitimizing scientific inquiry within a religious framework.

Two of these general or world philosophies, idealism and realism, are derived from the ancient Greek philosophers, Plato and Aristotle. Two are more contemporary, pragmatism and

existentialism. However, educators who share one of these distinct sets of beliefs about the nature of reality presently apply each of these world philosophies in successful classrooms. Let us explore each of these metaphysical schools of thought.

Idealism

Idealism is a philosophical approach that has as its central tenet that ideas are the only true reality, the only thing worth knowing. In a search for truth, beauty, and justice that is enduring and everlasting, the focus is on conscious reasoning in the mind. Plato, father of Idealism, espoused this view about 400 years BC, in his famous book, The Republic. Plato believed that there are two worlds. The first is the spiritual or mental world, which is eternal, permanent, orderly, regular, and universal. There is also the world of appearance, the world experienced through sight, touch, smell, taste, and sound, that is changing, imperfect, and disorderly. This division is often referred to as the duality of mind and body. Reacting against what he perceived as too much of a focus on the immediacy of the physical and sensory world, Plato described a utopian society in which "education to body and soul all the beauty and perfection of which they are capable" as an ideal. In his allegory of the cave, the shadows of the sensory world must be overcome with the light of reason or universal truth. To understand truth, one must pursue knowledge and identify with the Absolute Mind. Plato also believed that the soul is fully formed prior to birth and is perfect and at one with the Universal Being. The birth process checks this perfection, so education requires bringing latent ideas (fully formed concepts) to consciousness.

In idealism, the aim of education is to discover and develop each individual's abilities and full moral excellence in order to better serve society. The curricular emphasis is subject matter of mind: literature, history, philosophy, and religion. Teaching methods focus on handling ideas through lecture, discussion, and Socratic dialogue (a method of teaching that uses questioning to help students discover and clarify knowledge). Introspection, intuition, insight, and whole-part logic are used to bring to consciousness the forms or concepts which are latent in the mind. Character is developed through imitating examples and heroes

Naturalism in Classical Indian Philosophy

As a philosophical theory, naturalism aligns philosophy with science and the natural world—rejecting the supernatural. There are a variety of naturalisms, including: ontological naturalism, which holds that reality contains no supernatural entities; methodological naturalism, which holds that philosophical inquiry should be consistent with scientific method; and moral naturalism, which typically holds that there are moral facts and that such facts are part of the natural world.

Classical Indian philosophers do not call themselves naturalists, but different naturalistic traits are easily detectable in different schools. The validity of this claim is tied to the concept of nature admitted in different systems, which alone determines the boundary between natural and supernatural. This article, therefore, first discusses two different theories of nature and in the

light of that constructs arguments for ontological naturalism, methodological naturalism and moral naturalism by drawing on the writings of classical Indian philosophers. Naturalistic traits are not uniformly present in all systems: a single system of philosophy might uphold naturalism from one perspective and non-naturalism from another. The Naiyāyikas for example, have shown marked preference for naturalism in epistemology while in linguistic theory they are staunch conventionalists; the AdvaitaVedantins on the other hand, are non-naturalists in their ontology but their epistemology can be looked upon as naturalistic. A moral naturalism is shared by most Indian philosophical systems. However, in importing these labels from Western philosophy to the classical Indian philosophical systems, one needs to exercise caution because the concepts of nature, science, scientific method, etc. do not smoothly converge in the two theoretical traditions.

1. A Framework for Naturalist Analysis

Scholars differ among themselves regarding the classical period in Indian Philosophy, but here we will assume the classical period to reach from the end of the Vedic era to the beginning of the early modern age in the fifteenth century CE. Classical Indian philosophy is by no means a monolith but accommodates within it different systems which either admitted or denied the infallibility of the Vedas (the hallowed Revealed Scripture of the Hindus). The systems upholding the authority of the Vedas are Vedānta, Mīmāṃsā, Sāṃkhya, Yoga, Nyāya and Vaiśeṣika, while the systems that challenged its scriptural authority include Cārvāka materialism and various schools of Buddhism and Jainism. Naturalistic traits are available in these systems, but first it is necessary to determine the sense of naturalism relevant for the purpose at hand.

Peter Strawson in his Woodbridge Lectures (Strawson 1987) points out that the term 'naturalism' is elastic in its use. He distinguishes two main varieties: hard or reductive and soft or liberal naturalism. Hard naturalists view human beings with their different endowments as mere 'objects'—parts of nature—to be described, analysed and causally explained. The claim is that it is possible to have an absolute and pure objective view of human beings and their behaviour. Soft naturalists, on the other hand, are ready to accommodate subjective dispositions and personal attitudes within a general naturalistic framework. Another way of discriminating naturalists in recent literature (Kornblith 1985, Papineau 2007) is to distinguish between methodological and substantive naturalism; where the former has as its sub-varieties (a) Replacement Theory and (b) Expansionist/ Normative Theory, while the latter may be subdivided into Ontological and Semantic varieties. According to Methodological Naturalism, philosophical theorizing should be continuous with empirical enquiry in the sciences. Some Methodological Naturalists want to do away with normative justification theories and to replace them with empirical and descriptive explanatory accounts. Other Methodological Naturalists are more liberal and retain the normative level with the proviso that the theorist must not forget that 'it is an empirical question what normative advice is actually usable and effective for creatures like us'. Ontological Substantive Naturalism is the reductive view that there exists only natural

and physical things and Semantic Substantive Naturalists emphasize that philosophical analysis of any theoretical concept must show it to be amenable to empirical enquiry.

A rejection of the supernatural is the point of minimal agreement amongst naturalists of all types, but there is no consensus regarding the boundary between natural and supernatural. Most schools of Indian philosophy identify nature with the empirical world or the world of experience. Two extreme views about the empirical world are available to Indian theory. The AdvaitaVedāntins declare the world of experience unreal, an apparent transformation of the eternal and unchanging ultimate conscious principle. To the materialist Cārvākas, on the other hand, this world is real and it is composed of physical matter, consciousness is an emergent property of matter and self is nothing but conscious material body. They were also known as svabhāvavādins (a term translatable as "naturalists") because to discard everything supernatural from their world-view they subscribe to a doctrine which holds that the occurrence of an effect is not determined by its cause but by its essential nature, thus making causation entirely redundant. This is indeed a unique move in the history of naturalism, for all types of naturalism in the West are intimately connected with the provision of a causal account of the world or of nature. In terms of our earlier taxonomy, the AdvaitaVedāntins might be branded as non-naturalist and the Cārvākas as hard naturalist. In between these two lie the Buddhists, the Jainas, the Nyāya-Vaiśeṣikas and the Sāṃkhya-Yoga philosophers, whose accounts of the empirical world need to be analysed carefully if we are accurately to place them. Two questions, the answers to which will help to discern naturalist traits in these systems, are: what are the ultimate constituents of the empirical world, and what is the accepted model of causation for a particular school? For the bounds of nature are to be determined by the nature of real entities as admitted in a system and the nature of causal connection amongst these entities. If only physical things governed by the rules of mechanical causation are taken to be natural, then attempts would be made either to reduce psychological, biological, social, moral and mathematical entities to the physical or to establish somehow their causal relevance to the physical world.

Only Cārvāka hints at the causal closure of the physical world, and the four models of causation entertained in Indian philosophy allows interactions between matter and consciousness, material particles and mathematical entities, non-living and living beings, accumulated merits and demerits of past actions and present events, and so on. This, however, should not lead one to think that Indian thinkers admit transgression of the barrier between the natural and the supernatural. On the contrary, they establish their own criteria of demarcation and in doing so legitimize the admission of various kinds of entities in the 'natural world'.

2. Indian Concepts of Nature

There are two contending theories of the natural world in India. According to the first, the empirical world arises out of combinations of atoms. Proponents of atomism (paramāṇuvāda) are found among Nyāya, Vaiśeṣika, Buddhist and Jaina thinkers. Sāṃkhya philosophers hold instead

that the world is a transformation of an ever-dynamic Ur-Nature (mūla-prakṛti). Variations of this second conception are also available in some branches of Vedānta.

2.1 Atomism :Nyāya-Vaiśeṣika

Like Greek atomism, Indian atomism was speculative and local. The roots of Indian atomism can be traced back to the Upaniṣadic doctrine of five elements (pañca-mahābhūtas), viz., earth, water, fire, air, and vyom or ākāśa. According to the Nyāya-Vaiśeṣika philosophers, the first four elements are of two types—eternal and non-eternal. Atoms are eternal, while composite 'wholes' are non-eternal, since every product is eventually destroyed. Atoms, it is claimed, possess the smallest magnitude (aṇu-parimāṇa), are spherical (parimaṇḍala), indivisible, and eternal. Though quantitatively identical, each type of atom has specific attribute. An earth atom has odour, a water atom taste, a fire atom colour and an air atom has touch as specific attribute. What motivates an atomistic conception of nature? Nyāya-Vaiśeṣika thinkers offer a two-step argument to establish the existence of atoms. The first step is:

Every visible substance is composed of parts.
Therefore, the smallest visible composite thing—say, the smallest mote seen in a sunbeam—is also composed of parts, as it is visible, like a piece of cloth.
There are two presuppositions of this argument: (1) A part of a whole is always smaller in size than a whole—a thesis of which no counter-instance is available in our world; and (2) the parts of the smallest visible composite thing are imperceptible. The second step of the argument runs as follows:

The imperceptible part of the smallest visible thing must possess parts, if it is a composite thing.
However, this division of composite things into its parts must come to an end; otherwise there will be a vicious infinite regress (anavasthā).
So, there must be partless, indivisible, imperceptible things, things which are defined as atoms.
But why is a process of infinite division inadmissible? Because, reason the Nyāya-Vaiśeṣikas, a mountain and a mustard seed will then be equal in size: both being infinitely divisible, they will have countless parts. One might object that the said division will stop only when there is nothing left to be divided, but that this would imply that the whole world can be created out of nothing; and the idea of creation ex nihilo is not viable. But division is possible only when there is a thing to be divided, something which forms the base (ādhāra) of division. A process of division annulling its base is as absurd a notion as digging a hole in empty space. To avoid these inconsistencies, therefore, indivisible atoms must be admitted.

A theory is provided of atomic composition. There is a distinct order of combination of atoms. Two atoms of the same type combine to form a dyad (dyaṇuka) and three dyads of the same type combine to form a triad (tryaṇuka), which is held to be the smallest perceptible object. Triads combine in varying numbers to give rise to large composite wholes of different shapes and sizes.

Dyads are also thought as the 'ārambhaka'—that from which the process of creation starts, the atoms being eternal are uncreated and continue to exist when a creation comes to an end.

There are two main puzzles about the Nyāya-Vaiśeṣika theory of composition. First, why can't two atoms of different types form a dyad? An answer is, if an earth atom and a water atom combine to produce a dyad, to which type will the resultant belong? It cannot belong to both types possessing two exclusive class-characters, nor can the resultant be of a mixed type, for then we shall never have any natural kind of perceptible dimension. The second issue here is why three atoms or two dyads cannot directly produce a composite object. According to the Nyāya-Vaiśeṣikas, sticking to the order of conjunction of atoms is important to explain how perceptible magnitude arises at the stage of triad from the combination of its imperceptible components. If an atom is of imperceptible magnitude, so will be the magnitude of a dyad, for a quality of a part produces in the whole the same quality in greater degree. Now if the dyads are imperceptible, then by the same logic a triad will also be imperceptible. If this process continues, then there will never be any composite object of perceptible dimension. So the Nyāya-Vaiśeṣikas need to give a rational justification for the perceptibility of a triad. They uphold that, unlike other qualities, the magnitude of a compound is not caused by the magnitude of its components. The gross magnitude of a composite whole is a resultant either of the grossness of its component or the looseness of their conjunction or of the plurality of their numbers. The first alternative has already been rejected. The second alternative also is not acceptable to the Nyāya-Vaiśeṣikas because they do not admit any interstice between two atoms. So they endorse the last alternative that the perceptible magnitude of a triad is caused by its number. Some think that triads of different elements can combine to form tetrads, and so on. Since the atoms of different elements have specific qualities, there would be different structural arrangements (vyūha) in triads constituted by different types of atoms. Different qualities observed in large composite substances are due to such different structural arrangements of their components.

Let us quickly review some other features of Nyāya-Vaiśeṣika atomism. First, like the four material elements, mind (manas) is also said to be of corporeal nature and atomic in magnitude though lacking in sensible quality. Material atoms have specific sensible qualities and so are called 'bhūta'; both matter and mind are capable of movement and so designated 'mūrta'. The four elements come closest to a scientific conception of matter. Second, all atoms are said to be quantitatively identical and qualitatively different. Two atoms belonging to different types can be easily differentiated by their specific attributes, but the problem arises while differentiating two atoms of the same type, say, two earth atoms. The Nyāya-Vaiśeṣikas therefore introduce in their ontology a unique objective principle called 'viśeṣa' (ultimate differentiator) for individuating atoms. Third, the wholes constituted by atoms are not mere conjunctions of atoms, but are new entities inhering in their own parts. Fourth, the atomic theory is intimately connected with their theory of causation. A cause has been defined in this system as an invariable, unconditional antecedent of an effect; an effect, on the other hand, is said to be the counter-correlative of a prior absence. A counter-correlative of any absence removes that absence. A pot is a counter-correlative of its prior absence because this absence of pot disappears as soon as the pot is

produced. Every effect is preceded by its prior absence, so each effect is a new production. Such theory of causation is known as ārambhavāda, the theory that an effect always comes into existence out of a prior state of non-existence (as opposed to the theory of existent effect (satkāryavāda) advocated by the Sāṃkhya school). Causes are of two types: (a) common (sādhāraṇa) and (b) uncommon (asādhāraṇa). A common cause is uniformly present before the occurrence of any effect whatsoever and is necessary for effectuation as such; an uncommon cause is that which invariably and unconditionally precedes a particular effect. Common causes are space, time, accumulated merits and demerits of individual agents (adṛṣṭa), God, knowledge, desire and will (prayatna) of God, and prior absence (prāgabhāva). Uncommon causes are divided into three classes: (a) inherent (samavāyi), (b) non-inherent (asamavāyi) and (c) efficient (nimitta). Without entering into their technical definitions, let us understand them with the help of an example. Atoms are the inherent causes of the world, conjunctions of atoms are its non-inherent causes, and God and adṛṣṭa are its efficient causes. Fifth, admitting numbers as the cause of grossness of a triad shows that they have a capacious world-view where numbers can have causal effect on the physical world.

For a consideration of early modern Nyāya discussions of atomism in India in contrast with mechanical philosophy in Europe, see Ganeri 2011, chapter 14.

Atomism: The Buddhist and the Jaina Views

Two realist schools of Buddhism, the Vaibhāṣika and the Sautrāntika, also present an atomistic conception of nature. According to the former, matter is a collocation of the substratum of colour, taste, odour and touch. Atoms are the minutest units of the rūpa-skandha (collocation of material elements). As it is mentioned in the Abhidharmakośa (I. 44), 'Atoms of the visual organ are arranged in the pupil of the eye in the shape of an ajājī flower; those of the auditory organ are arranged in the earhole in the shape of a bhūrja leaf, atoms of the olfactory organ are arranged in the form of a long pin (śalākā) inside the nostrils, those of the gustatory organ inside the mouth in the shape of the half-moon, and those of the cutaneous organ in the shape of the body.' Atoms are thus indirectly related to observational entities. Atoms, according to them, are indivisible, imperceptible and momentary. They continually undergo phase-changes. Some Sautrāntikas hold that atoms are not particles of matter but a dynamic force or energy. According to Vasubandhu, atoms are always in an aggregate and never alone. For it has been mentioned by some that the rūpa-skandha is that which can cause obstruction and is also subject to transformation. A single atom cannot possess these properties; hence atoms are always in a cluster.

The Buddhists then speculate about the nature of the smallest aggregate. Sautrāntikas hold that seven atoms form the smallest aggregate. They also maintain that atoms do not touch one another. So the aggregate of atoms is not a solid whole but rather there is space among atoms. Others, however, concede the possibility of dense combination of atoms. The combination of seven atoms takes place in the form of a cluster with one atom at the centre and others around it. The Sarvāstivādins talk about eight types of atom. The four fundamental types are of earth

(solid), water (fluid), fire (hot) and air (moving). The secondary atom types are of colour, odour, taste and touch. Thus, according to this view, specific qualities are atomic too. Each secondary atom requires for its support four fundamental atoms. So, by simple calculation, a non-sounding aggregate (aśabda) consists of 20 atoms, while a sounding aggregate (saśabda) is composed of 25 atoms.

The Jainas also propound atomism. All the entities admitted in their ontology, except souls and space, are constituted by material elements (pudgalas). Atoms are eternal as regards their substance and each exists by occupying one space-point (pradeśa). These atoms are qualitatively similar, each possessing one kind of taste, smell and colour and two kinds of touch, viz. hot or cold and rough or smooth. Other kinds of touch, viz. heavy, light, soft and hard, and varied colour, taste and smell are found only in compounds formed by atoms. The Jainas maintain that atoms are usually in motion but not always. Depending upon the spatio-temporal conditions, atomic motion is either regular (niyamita) or irregular. In one unit of time atoms regularly move in a straight line. However, while in interaction with another atom or a group of atoms, atomic motion becomes curvilinear. The Jainas also speculate about the speed of a moving atom under different conditions.

The main difference between these atomisms and Nyāya-Vaiśeṣika atomism lies in their account of combination of atoms. The latter had to resort to God's will and an unseen force (apparently non-natural) to explain this process of combination. The Jainas and the Buddhists, on the other hand, gave a satisfactory account of the combination of atoms in terms of natural forces. The Jainas, for example, explain the bonding of atoms on the basis of an empirical observation (Tattvārthādhigamasūtra, 5. 32). It is seen that when drops of water fall on particles of barley, one single lump is formed. By generalization, the claim is that a viscid / smooth (snigdha) atom tends to combine with a dry / rough (rukṣa) atom. Viscidity and dryness, smoothness and roughness, are no doubt natural properties of atoms. The following rules of combination are formulated:

To combine, atoms must be opposite in nature. According to some modern interpreters, to interact one particle of matter must be negative and the other positive. It has been speculated that the Jainas arrived at this rule on the basis of observed electrification of smooth and rough surfaces on rubbing.
The opposing properties of the atoms to be combined must be sufficiently strong.
Atoms endowed with similar properties must differ in 'intensity' to combine. The intensity of one must be at least twice strong than the other, i.e., atoms possessing viscidity of two degrees will combine only with atoms possessing viscidity of four degrees.
While combining, higher degrees transform the lower one. Viscidity of four degrees will transform viscidity of two degrees and the resultant will be one unit having viscidity of four degrees. Otherwise, in combination two will remain separate just like a cloth woven with black and white yarn.

Śubhagupta (Bāhyārthasiddhikārikā, 56–58), a later Vaibhāṣika, offers an alternative account of the combination of atoms. According to him, two atoms come close to each other because of their inherent potency (dravyaśakti), though they are not actually conjoined. Like a mantra drawing out a snake and keeping it immobile by its inherent potency, two atoms are drawn towards each other and form an aggregate by their natural inherent potency. The accumulated atoms combine again to give rise to varied composite objects of the world. However not all atoms are equally potent, and some never become a part of an aggregate because of their insufficient bonding power. Atoms when bonded together undergo a transformation because of mutual influence and novel properties emerge in the aggregate which were not present in the single atoms. For example, carbon compounds when transformed into diamonds become too hard to be disintegrated.

Through theoretical speculation alone, Indian atomists tried to throw light on the nature of the ultimate particles. Some Buddhists, we have seen, even described atoms as packets of energy. The chemical laws that the ancient Indians derived on the basis of their speculations about the process of composition of atoms led to the advancement of applied chemistry and applied medicine. These theories may not have much relevance in the context of modern science or cosmology but the associated debates about the nature of causation have contributed to an understanding of the philosophical foundations of scientific enquiry.

An Extreme Naturalism (Svabhāvavāda)

The hard-core naturalists, Cārvākas, admit four types of basic material elements—earth, water, fire and air. They reject atomism, however, since they refuse to admit any imperceptible thing in their ontology, including God, Soul, ākāśa and all kinds of non-natural forces. The material elements are said to possess some qualities naturally. Multifarious objects of this world including living and conscious beings are produced out of the combination of material elements. It is generally held that the nature of any effect is determined by the nature of its cause. The Cārvākas, however, deny any causal connection between the material elements and the compounds arising out of them. Just as fire is naturally hot and water is naturally cold, similarly, they hold, sugarcane is naturally sweet, margosa leaves are naturally bitter and thorns are naturally sharp. The distinguishing feature of this kind of extreme naturalism is a belief in a fortuitous generation of events (ākasmikatāvāda). Causal relations are supposed to involve necessity, but necessity is not perceptible and whatever is not perceptible cannot be inferred or established by any other means. Udayana argues, in an elaborate critique of this view (Nyāyakusumāñjali I, 4–5), that every event must have a cause because every event without exception has 'conditional' (sāpekṣa) existence, this in turn because it has 'occasional' (kādācitka) existence, i.e., it occurs at a certain time. An eternal entity is always existent and a fictitious entity does not exist at any time: as these are not characterized by occasional existence, these are not caused. The only counter-instance to this rule is prior absence, which has occasional existence but being beginningless has no cause. Cārvākas affirm, however, that an

event need not originate from a cause; it may come into being fortuitously. Even the occasional origination of an event is due to the nature of the event and has got nothing to do with its cause.

The thesis of fortuitous generation may be given five alternative formulations on the basis of the etymological analysis of the word 'akasmāt' (without cause):
An effect does not originate from a cause.
An effect does not arise at all.
An effect is self-caused; it is not determined by any external condition.
An effect is generated by an unreal cause.
The occurrence of an effect is not determined by its cause but by its own nature (svabhāva).
Udayana objects to all these formulations. If an effect were not dependent on its cause for its existence, then it could have occurred at any time, in fact at all times, and thus would lose its occasional nature. In fact, every effect has a temporal limit fixed by its cause, prior to which it cannot exist. The second formulation runs contrary to our perception of the occurrence of an event at a particular spatio-temporal location. The third formulation is unacceptable because the same thing cannot be both a cause and an effect at the same time in respect of the same set of conditions, and because it is not possible for anything to exist before its origination. The fourth formulation is rejected outright for no unreal thing can ever enter into a causal process. The fifth formulation leaves us totally mystified because the proponents of the fortuitous generation thesis have nowhere specified what this nature is by virtue of which an effect can occur without its cause. So we wonder, is this nature different from or the same as the effect? On the first alternative the principle of causality is re-established while the second alternative is unintelligible. If the nature of an effect is the same as the effect and a thing can never be separated from its nature, then it would follow that an existent entity would go on causing its own existence over and over again. This is surely absurd. Philosophically these arguments appear to be pretty convincing, but Cārvāka naturalists may find an ally in quantum physical talk about spontaneous decay of a radioactive element, quantum jumps, and so forth.

Prakṛti-pariṇāma-vāda: An Alternative View of Nature

That a whole arises out of smaller parts and that atoms are the material causes of the world—these mainstays of atomism have been contested by other schools of Indian philosophy. There are two important cosmological theories in the anti-atomic camp—Prakṛti-pariṇāma-vāda and Brahma-kāraṇa-vāda. Of these two, the first, aSāṃkhya view that the world evolves from Ur-Nature or prakṛti, is more relevant in the discussion of naturalism. Ur-Nature is an ever-dynamic whole of all-pervasive magnitude having three constituent principles or guṇas, viz. sattva, rajas and tamas. Sattva has the power to illuminate, rajas to activate and tamas to restraint. B.N. Seal (1958), therefore, thinks that these principles are three aspects of matter, viz., form, energy and mass. K.C. Bhattacharya (1956), on the other hand, has offered a psychological interpretation which appears to have a closer fit with the text. Bhattacharya maintains that the Sāṃkhya considers things of nature as contents of affective experience. Mohanty (1992) also concurs that 'the guṇas are the substantial, but dynamic, being of the elementary feelings that constitute, in

their interconnections, all experience.' The guṇas as affective absolutes constitute the object. In the process of evolution, the Sāṃkhya gives the central role to rajas, which is said to be an ever-active principle of pain. Mohanty explains, following Bhattacharya, that 'since pain implies the active wish to be free from pain, pain is a freeing activity: it is restless willing to be free. Pleasure is restful freedom from pain; indifference is not only want of freedom but is also not actively willing freedom.' So these three constituents of Ur-nature are present in all objects of the world in different proportions and are responsible for our varied experience. This theory of nature is complemented by a theory of causation, viz. satkāryavāda, which states that an effect exists in its cause prior to its production in a latent or non-manifest form.

The Sāṃkhya philosophers advance the following arguments in favour of their theory of causation. (a) What is non-existent cannot ever be produced. Whatever is non-existent remains non-existent for ever and whatever is existent always exists. Nothing can be sometimes existent and sometimes non-existent. Self, for example, is always existent, whereas the fictitious sky-flower is eternally non-existent. No agency can turn non-existent into existent. So if the effect were non-existent in the material cause before the causal operation, then it would never be produced. (b) If a particular cause is to be a prior determinant of a particular effect, then there must be an appropriate relation between cause and effect. That means, a cause produces an effect only being related to it. But no such relation can obtain, if the effect were non-existent. For, a relation to obtain requires at least two relata. Hence an effect must pre-exist in its cause. Moreover, on the Sāṃkhya view the relation between cause and effect is one of identity (tādātmya), and it is obvious that an existent cause cannot be identical to a non-existent effect. (c) One may still wonder, why should not the effect be produced by an unrelated cause? The reason is that if the effect could arise without being related to the cause, then any cause could give rise to any effect. If there were no definite relation between threads and cloth, then why does a pot not arise from threads? (d) The opponent might say that the effect need not pre-exist in the material cause because when the cause is potent even a non-existent effect can be made to exist by the causal operation. When, on the other hand, the cause lacks the potency the desired effect cannot be produced. Since oil-seeds possess the adequate potency, oil can be produced out of these seeds but not out of sand. Sāṃkhya philosophers concede this point and maintain that causal operation enables a potent cause to manifest the latent effect. However, they point out that positing potency or efficiency will not satisfy their opponents. For then the question will be: where does this potency exist? The opponent must agree that this potency exists in the material cause. Does this potency have any relation with the effect or not? The answer has to be affirmative, otherwise we would not have said that oilseeds possess the capacity of producing oil and not pots. So once again we are back to the same question: how can the potency residing in the material cause be related with a non-existent effect? The Sāṃkhyas, therefore, affirm that this causal efficiency is nothing other than the existence of the effect in the material cause in a latent form. (e) The final argument in favour of the Sāṃkhya position reveals the whole issue very pointedly. The effect, they say, exists in the material cause because cause and effect are essentially the same but only different in form. Since the cause is existent, the effect also must exist. The Sāṃkhya has a special stake in this point because the whole debate is geared to

proving the existence of prakṛti as the ultimate material cause of the universe. In the process they also attempt to establish, contra Vedānta, that the evolution of the universe is genuine and not merely illusory.

The process of evolution of the world from Ur-Nature is briefly as follows. The first evolute of prakṛti is the mahat-tattva (the Great Principle, the Cosmic Intelligence or buddhi). From this emerges I-consciousness (ahaṃkāra). From the sattva aspect of I-consciousness evolve five organs of knowledge (eye, ear, nose, tongue and skin), five motor organs (speech, hands, feet, reproductive and excretory organs) and manas (sometimes translated as mind); from the tamas aspect of I-consciousness emerge five subtle elements (pañca-tanmātra), viz., sound, touch, colour, taste and smell. The five subtle elements give rise to five gross elements, viz., ākāśa, air, fire, water and earth.

It has already been mentioned that the three constituents of Ur-Nature are always in transformation. Before the beginning of creation or empirical manifestation of Ur-Nature, there is a homogeneous transformation (sadṛśa-pariṇāma) of the principles, sattva transforms into sattva, rajas into rajas and tamas into tamas. At the time of world-manifestation the active principle, rajas, becomes predominant and activates the other two principles. The stability of Ur-Nature is disturbed due to its close proximity with the Self (puruṣa), an independent co-eternal reality, like a piece of iron in proximity of a magnet, and the process of heterogeneous transformation begins. The constituent principles of Ur-Nature combine with one another in different proportions and the manifold world comes into existence.

The Sāṃkhya theory of evolution has been described as teleological because on this view the entire process of evolution takes place for the sake of the enjoyment and liberation of puruṣa, the pure Self. As such, puruṣa stands outside the process of evolution. When puruṣa is reflected in the first evolute of Ur-Nature, cosmic intelligence, it conflates its own identity with the first evolute and appears to have enjoyment and suffering. When it once again comes to realise its own nature by attaining discriminatory knowledge, it is liberated. Certainly there are problems in the Sāṃkhya admission of a conscious but inactive principle, puruṣa. Puruṣa is eternal and ubiquitous like prakṛti, but if these two are always in contact the start of the creation process remains inexplicable. Again, it is not easy to understand why Ur-Nature should ensnare the pure self into bondage and then liberate it through discriminatory knowledge. Sāṃkhya philosophers say that the enjoyment of the pure self is a sham enjoyment, and so is the liberation because the pure self is eternally free. Then, however, the teleology loses its force, something that is perhaps inevitable because the Sāṃkhya teleology had always been proto-naturalistic, as is evident from two examples used in the literature. Just as non-sentient cow-milk flows merely from its own nature for the nourishment of the young calf and non-sentient rain clouds naturally yield rain for the sustenance of life on earth, so Ur-Nature ensnares the pure self for the latter's enjoyment and liberation. The Sāṃkhya theory has never upheld a conscious teleology, rather it has spoken of the natural directedness of Ur-Nature and its evolutes towards satisfaction of another's need.

Though the later Sāṃkhya narration embraces a clear-cut dualism of Ur-Nature and pure self, Dasgupta (1987) mentioned a version of early Sāṃkhya philosophy where the self is regarded as a non-manifest part of prakṛti. In this system consciousness exists in the material Ur-Nature in a latent form. This monistic theory is undoubtedly much more consistent; so why did the later Sāṃkhya change its position to dualism? Dasgupta writes succinctly, 'Man's body so far as it is a physical object is like any other object of nature passing through the process of evolution. But the introduction of soul from the organic state marks the epoch of a new kind of progress. This epoch attains it as the highest achievement when it comes to the moral being. So far as the physical world is concerned there is the same law of evolution from the relatively less differentiated, more determinate, more coherent whole and looked at from this point of view man's life and body are but a part of the universe suffering the same process of growth and decay. But looked at from another point of view all living beings and man pre-eminently by virtue of his soul, is a person and this addition of personality is a decisive addition. Thus so far as the physical parts and the biological sides of life are concerned he is an object of nature, but so far as his soul is concerned he is a person and it is this personality which constitutes his spirituality.' The inexplicability of the normative, especially of the moral and the spiritual, a perennial bane of naturalism, thus led the proto-naturalist Sāṃkhya philosophers to admit pure self passively witnessing the process of evolution and standing outside the bounds of Ur-Nature. But that does not make empirical consciousness in any way naturalistically unexplainable. In the world process, buddhi plays a conscious role, reflecting the pure consciousness, just as the moon lightens up the world by borrowing the reflected light of the sun.

Methodological Naturalism

Methodological naturalism is the view that regards science and philosophy as continuous. 'Methodological naturalists', writes Papineau (2007), 'see philosophy and science as engaged in essentially the same enterprise, pursuing similar ends and using similar methods.' In classical Indian philosophical systems, we find instances of method continuity as well as result continuity. In this context, we shall discuss mainly the Nyāya view, for the Nyāya methodology of scientific and epistemic investigation was adopted by other philosophical schools too.

In the West, the relation between science and philosophy has been almost symbiotic. Sciences separated from philosophy only after attaining maturity, developed to their full capacity, proliferated into different branches and, when the circle was complete, all the off-springs started coming closer to the parent disciplines to form an inter-disciplinary consortium. But even when sciences went their own way, a special branch of philosophy, traditional epistemology, continued to guard their foundation and police their frontiers with the help of its unique method. Thus, in a second moment of fission, science and philosophy were found to differ in contents as well as in methods. In India, however, the fission did not occur so emphatically and the borders of different disciplines were never hermetically sealed. Consequently, there is science in philosophy and also trans-empirical philosophy in empirical sciences. Different philosophical systems combine the metaphysics of the transcendent with the logic of the mundane and the rules of individual and

social morality. We find these systems supplying us with ratiocinative principles that form the core of a scientific methodology while simultaneously facilitating the process of self-realisation culminating in liberation or mokṣa through discourses on the nature of reality. Thus with a view to unraveling the real nature of existents (tattvadarśana), philosophical systems indulge in quasi-scientific discussions of cosmology, physics, chemistry, psychology, biology, and so on. That is why B.N. Seal (1958) has called these philosophical systems 'positive sciences'. Thus in both method and content philosophy and theoretical sciences coincided to a large extent. Applied (phalita) sciences like alchemy and medicine did diverge from philosophy, but there too the influence of fundamental philosophical concepts like accredited means of knowledge, causality, adṛṣṭa, etc., was conspicuous on patterns of observation and experimental design.

The Naiyāyikas are a part of this tradition. One of their most significant contributions is formulation of a method which forms the core of inquiry in general and so also of scientific inquiry. The method has four main steps. The first step is to provide an enumeration (uddeśa) of the divisions of the subject matter. The second step is to supply a definition (lakṣaṇa) of the subject under consideration, in the form of a distinguishing mark of it. The third step is an examination (parīkṣā) of the definition, and the fourth verification (nirṇaya). Enumeration sometimes includes classification (vibhāga); however, in general, classification comes after definition. Any truth reached by this procedure is raised to the status of an established theory (siddhānta). 'Pramāṇas [methods of knowledge-acquisition] are operations subsidiary to the ascertainment of truth. The methods of special sciences are ancillary to these pramāṇas' (P. C. Ray, 1956). It is evident that methodologically there is no difference between science and philosophy, particularly epistemology. In Nyāya epistemology, common sense, science, logic and scriptures are all considered to be continuous with one another.

Naturalism in Nyāya Epistemology

Naturalized epistemology defines itself in contrast with analytic epistemology, which is also often described as 'traditional' or 'mainstream' epistemology. Analytic epistemology is justification-centric. The epistemologists' preoccupation with the formulation of principles of epistemic appraisal are geared to meet sceptical challenges. They adopt three main strategies. (1) They grant autonomy to epistemology, which is meant to provide the basis for all human scientific endeavours. Epistemology supposedly possesses an Archimedean standpoint or a view from nowhere, something that warrants the objectivity of the sciences. This presupposition led to the dissociation between epistemology and psychology. (2) They declare that all epistemic norms of justification are a priori in nature. They further maintain that providing causal explanation is no part of epistemology (Chisholm, 1992). Causal questions and matter of justification are to be kept strictly separate. So, according to traditional epistemologists, to judge whether a person's belief that p counts as knowledge that p, it is sufficient to find out if p is connected in the right way to other propositions, the rightness of the connection to be determined by logic (Kitcher, 1983). That is, the evidential story and the causal story should be kept strictly separate because the former is necessarily normative, while the latter is descriptive; in providing an epistemic

justification of a piece of knowledge, it is not necessary to probe the question of its origins. (3) As a follow-up of the Cartesian programme, analytic epistemologists try to ground knowledge of the external world on the subject's knowledge of inner experience. Justification thus becomes internalist and knowing that p entails knowing that knowing that p. If this condition is not satisfied, no one can be a responsible knower. (4) Most traditional epistemologists also subscribe to the realist conception of truth and one determinate theory of reality. (5) They are also committed to the No Accident Thesis, which says that beliefs expressed by true sentences are better guides to action than those expressed by false sentences; it is no accident that well-confirmed sentences tend to be true.

Naturalised epistemologists form a heterogeneous group and not all of them contest all the above features. However, in general epistemological naturalists question the first three traits. (a) They give up the privileged autonomous position of epistemology and uphold that epistemology must be continuous with science. (b) Causal questions must form part of epistemology, epistemologists should take stock of psychological conditions of cognition. (c) The traditional internalist model of justification being unacceptable, either epistemology should give up the task of justification altogether or look for alternative means of justification. Radical naturalists like the early Quine want to replace epistemology by psychology and give up the justification task entirely. Later Quine and more moderate naturalists, on the other hand, re-instate justification but of a different kind: some consider justification offered in terms of causally reliable process of belief generation to be adequate, some others admit epistemic justification but retain naturalism by making it supervenient on natural facts.

The most general arguments in favour of the claim that Indian epistemic systems are naturalistic are as follows. Each develops its respective theory of veridical cognition and/or knowledge (the term pramā is ambiguous) in response to sceptical threats. In spite of having different metaphysics, most attempt to explain cognition with reference to psycho-causal chain. As far as knowledge of the empirical world is concerned, all admit the primacy of perception and thus provide the systems of epistemology with a strong empirical foundation. Indian traditions, in general, as we have seen, sustain a methodological continuity between science and philosophy. Indian philosophers did not feel any need for the a priori/ a posteriori distinction, nor does their theory depend on necessity/possibility or analytic/synthetic distinctions. As a result, they could easily commute between the realm of the normative and that of the descriptive. All these are considerations in favour of a moderate methodological naturalism; however, in the absence of any special scientific domain, they do not lend support to the conjecture that Indian theory sustains a radical replacement naturalism.

The Nyāya response to sceptical objections occurs at two levels, at the first level enumerating a set of virtuous processes by which true beliefs are acquired, and the second level dealing with the ratification of those reliable or virtuous processes of belief-acquisition. Naiyāyikas admit four kinds of cognition—perceptual (pratyakṣa) inferential (anumiti), that which arises from comparison (upamiti) and verbal (śābda), and four accredited means of acquiring veridical

cognition (pramāṇa), viz., perception (pratyakṣa), inference (anumāna), comparison (upamāna) and authority (śabda). They decide the number of the accredited means by empirically observing the effectiveness and reliability of the respective means in generating true beliefs. According to them, these processes generate true beliefs only when accompanied by genuine excellence or epistemic virtue (guṇa). The virtue that makes a generating process meritorious differs in each type of true belief. In case of perception the relation of the sense organ with the object characterised by the property which figures as the qualifier in the perceptual cognition is said to be the virtue. For example, when one perceives a white shell as white, our sense organ stands in appropriate relation with the object of perception, a shell in this case, and apprehends the property whiteness which characterizes the shell in question and thus gives rise to a veridical perception. In a veridical inferential cognition the mark, which is invariably concomitant with the thing to be inferred, must be known to be present in the locus of the inference. For instance, when someone correctly infers fire on a distant hill, it is known to him that smoke, which is invariably concomitant with fire, is present on the hill. In case of knowledge by comparison, knowledge of similarity is the excellence, e.g., someone rightly identifies an unknown animal as a bison on seeing its similarity with a cow which he came to know from an expert's utterance to the effect that a bison is similar to a cow. Finally, in case of verbal knowledge, the speaker's veridical cognition of the state of affairs described by the sentence uttered is the excellence, e.g., when an umpire declares a batsman out in a cricket match on the basis of his expertise and veridical cognition of the state of affairs. A false belief results from the presence of some defect (doṣa), and not merely from absence of the required virtue. Someone may perceive a white shell as yellow because he is suffering from jaundice or because of the yellow tinted light in the room or due to some other defective condition. These defects differ in each instance of false belief. The Naiyāyikas therefore maintain that a false belief is caused by a defect and a true belief is caused by a virtue. This principle holds in all cases and all types of belief—be it commonsensical, scientific, or philosophical.

The topic of epistemic luck is an important one in this theory. For, although a defective process usually generates a false belief and a meritorious process generates a true belief, yet some beliefs may be true by fluke, in spite of being produced by a defective process. Suppose someone wrongly perceives mist as smoke and argues, 'The hill has fire, as it has smoke on it'. Unbeknownst to him, the hill actually possesses fire. So this argument yields a veridical conclusion though the ground is defective. Or consider the following example (Chakrabarti, 1994): 'Suppose that on a Tuesday a cheat mistakenly believing it to be Monday says, "Today is Tuesday". If the listener does not suspect him to be a cheat, he would "understand" that today is a Tuesday. What he would understand surely would agree with facts.' Here also the resultant cognition is veridical even though it is produced by a defective process. That is why the Naiyāyikas hold the following principle: if there is a false belief then there must be a defect in the generating process, but not its converse, i.e., if there is a defect in the generating process, then it produces a false belief (defects are necessary but not sufficient for error). The problem of epistemic luck has led scholars like Sibajiban Bhattacharyya to declare that the Naiyāyikas did not mean by veridical cognition (pramā) a justified true belief. Others, including J.N. Mohanty

(Mohanty 1992, 2001) contest this view. They rather reconstruct the notion of pramā as a justified true belief and include the two examples mentioned above in the list of the Gettier-type counter-examples, thereby attempting to accommodate pramāṇa theories within the framework of traditional epistemology.

The Naiyāyikas beginning with VācaspatiMiśra succinctly uphold that since a belief cannot reveal its own truth, nor can it be grasped in after-perception, it must be apprehended by a subsequent inference following from volition leading to successful activity. An example from the Nyāya literature will make the point clear. Suppose a thirsty traveller perceives a lake at a distance. Suppose further that all the propitious conditions for a veridical perception are present in this case, e.g., the traveller's vision is not defective, there is adequate light, and so on. Yet, if he were ever eluded by a mirage, he might doubt his vision. The only way to allay his doubts is, says the Naiyāyika, to approach the lake, take a dip in it and drink the water. If he feels cool and his thirst is quenched, he can be sure about the truth of his perceptual belief. It is significant that the Naiyāyika calls the volition leading to successful behaviour 'samvādipravṛtti', literally meaning coherent volition. One's volition is realised into action and he gets his desired object. Thus there is coherence between the object of volition and the object of perception. One's perceptual belief that there is a lake at a distance is true, if and only if, there is a lake at a distance. However, to establish it, he needs further corroboration. His perceptual belief about the lake must cohere with his other beliefs about water, e.g., it quenches thirst, wets a thing, and douses fire, etc., which motivates him to act positively or negatively in a particular situation. I think the model of ratification here is similar to that of the crossword puzzle, which combines moderate foundationalism with coherentism. A belief to be true must have a content-to-world fit. Yet, until such a belief, produced by an accredited means, matches other beliefs in the existing network, the belief cannot be known / believed to be true nor the means of generation can be warranted. The same theory applies to scientific knowledge. They specifically mention the case of Āyurveda or the science of medicine. Āyurveda is considered a science because Ayurvedic prescriptions lead to successful action. When a sick man is cured by following the prescription of his doctor, he infers the truth of the utterance of his doctor and gradually gains confidence in Āyurveda as a science.

The Naiyāyikas address the question of ratification in the context of scriptural injunctions. No knowledge is, according to them, self-justified, and scriptural prescriptions are no exception, but they are also not empirically testable. VācaspatiMiśra suggests that scriptural injunctions can be verified by trading on their similarity with medicinal prescriptions: like medicinal prescriptions, scriptural prescriptions are also acceptable, since both are uttered by an infallible speaker. It is interesting to note in this context that one of the premises of the argument that God is infallible ultimately rests on another accredited belief-generating process, viz., reliable testimony or authority. And again, when the authority as a means of valid cognition is questioned, there is a fall back on inference. Many a times we see the Naiyāyikas paying scant attention to obviously circular reasoning. This cannot be due to their inadvertence or ignorance. Rather, like true

naturalists, they favour repairing their boat while still floating. And significantly, at no stage in their rebuttal of scepticism do they resort to an internalist mode of justification.

The naturalism of the Naiyāyikas can be thrown into relief by their dispute with Mādhyamika Buddhists. The Mādhyamikas play the role of sceptic against the metaphysical realism of Nyāya. Nāgārjuna points out that a Naiyāyika cannot establish the pramāṇa-hood of a pramāṇa by means of another pramāṇa for that will lead to an infinite regress. Nor can the Naiyāyika establish it by pointing out its reliable character because that will lead to circularity (a piece of cognition is said to be pramā when it is produced by a reliable pramāṇa; to establish the reliability of a pramāṇaby referring to the fact that it has always been sufficient for generating a pramā is obviously circular). This objection would have been irrefutable if the Naiyāyikas had only one kind of pramā and one kind of pramāṇa in their epistemic repertoire. But as the Naiyāyikas admit four different pramāṇas for four different types of pramā, they can always fall back on other pramāṇas when the reliability of one is questioned: to justify perception, one might take recourse to inference, and again to justify inference one can rely on verbal cognition. As to establishing the reliability of the verbal cognition, they appeal to inference. As Quine once said, 'Such scruples against circularity have little points once we have stopped dreaming of deducing sciences from observation. If we are simply to understand the link between observation and science, we are well advised to use any available information, including that provided by the very science whose link with observation we are seeking to understand.' A naturalist need not be afraid of circularity.

Moral Naturalism: karma and adṛṣṭa

Moral naturalism has two characteristic features: first, moral facts are considered to be natural facts; second, moral facts can causally influence the physical world as well as human experience. Both these features are present in the moral theories of many of the classical systems of Indian philosophy.

The doctrine of karma is a foundational thesis of Indian moral philosophy. According to the doctrine of karma, every action gives rise to some consequence; a good act leads to good consequence and a bad act to bad consequence: every human agent has to reap the consequences of his/ her actions. One is sure to be rewarded or punished for one's good or wrong deeds. A just moral scheme requires that one should never suffer or enjoy the consequences of another's action. The burden of moral responsibility for one's deeds is thus to be borne by the individual. In spite of this, most Indians believed and still believe that even if our present actions are causally necessitated by our past actions, our present actions can be free.

The validity of the doctrine, however, has often been doubted on empirical grounds. For, it is a common sight that saintly people suffer in their life, while habitual wrongdoers enjoy happiness. To account for such anomalies, a theory of rebirth is tagged to the karma-doctrine. The logic is somewhat like this: since nothing comes from nothing, one must have done something good in

the past, in this life or some other life, if one is happy; and, on the other hand, if one suffers then one must have done something wicked, if not in this life then in some other previous life. Although, with the exception of a few parapsychologists, nobody claims to have any scientific evidence for rebirth, yet this is a rational justification of the belief in rebirth on the assumption that the universe is law-governed. The overarching law that the philosophers in India believed in was called ṛta—the principle of cosmic order or harmony that 'makes science possible, the world beautiful and the humans moral'. Ṛta is the principle underlying the 'finely-tuned universe', the transgression of which leads to sin. It represents the totality of physical and moral laws, which even the gods are bound to obey. The law of karma follows from ṛta as the causal basis of the phenomenal world. God is constrained so to act as to keep in view the accumulated karma of individuals, yet to bear fruit.

Karma is standardly divided into three types in Indian thought: (1) that which has started to bear fruit (prārabdha) and cannot be diverted or stopped in the middle of its course; (2) that which is being performed now the consequence of which is being credited for future fruition (sañcīyamāna); and (3) that which has been accumulated but yet to start yielding results (sañcita). A very apt illustration available in the literature is that of an archer with his quiver full of arrows. The arrow which has been shot by the archer is like the first type, the arrow that the archer holds in his hand in a state of readiness is like the second type, and the arrows in the quiver, yet unused, are like the third type. It is evident that the explanation of human acts being provided by the law of karma is a causal explanation. Perrett 1998, p. 73 comments that 'just as causal principle exhorts us to keep seeking explanations for physical occurrences, so the karmic principle exhorts us to keep looking for explanations for "moral" events.'

Nyāya thinkers seek to relate the principle of karma with the atomistic conception of nature described above, but in doing so might appear to compromise their commitment of metaphysical naturalism. Individuals can enjoy or suffer the consequences of their actions only during their embodied existence in the world. Atoms, therefore, combine to form such a world as individuals deserve because of their past deeds. When accumulated merits and demerits become ready for fruition, they can impart motion to atoms. To admit an unseen force as a cause of atomic motion, identified with the accumulated merits and demerits of individual beings, might seem to run against a commitment to naturalism. Yet the idea that there is unbroken chain of causal connection within the empirical world spanning across different lives situates the postulated 'unseen force' itself within the boundaries of the natural world. Mohanty (1992, p. 222) observes that 'if actions of the self and the moral forces (adṛṣṭa) generated by actions account for empirical nature's manifestation or creation, then ultimately nature is both natural and moral: the two order coincides.'

Realism

Realists believe that reality exists independent of the human mind. The ultimate reality is the world of physical objects. The focus is on the body/objects. Truth is objective-what can be observed. Aristotle, a student of Plato who broke with his mentor's idealist philosophy, is called the father of both Realism and the scientific method. In this metaphysical view, the aim is to understand objective reality through "the diligent and unsparing scrutiny of all observable data." Aristotle believed that to understand an object, its ultimate form had to be understood, which does not change. For example, a rose exists whether or not a person is aware of it. A rose can exist in the mind without being physically present, but ultimately, the rose shares properties with all other roses and flowers (its form), although one rose may be red and another peach colored. Aristotle also was the first to teach logic as a formal discipline in order to be able to reason about physical events and aspects. The exercise of rational thought is viewed as the ultimate purpose for humankind. The Realist curriculum emphasizes the subject matter of the physical world, particularly science and mathematics. The teacher organizes and presents content systematically within a discipline, demonstrating use of criteria in making decisions. Teaching methods focus on mastery of facts and basic skills through demonstration and recitation. Students must also demonstrate the ability to think critically and scientifically, using observation and experimentation. Curriculum should be scientifically approached, standardized, and distinct-discipline based. Character is developed through training in the rules of conduct.

Pragmatism (Experientialism)

For pragmatists, only those things that are experienced or observed are real. In this late 19th century American philosophy, the focus is on the reality of experience. Unlike the Realists and Rationalists, Pragmatists believe that reality is constantly changing and that we learn best through applying our experiences and thoughts to problems, as they arise. The universe is dynamic and evolving, a "becoming" view of the world. There is no absolute and unchanging truth, but rather, truth is what works. Pragmatism is derived from the teaching of Charles Sanders Peirce (1839-1914), who believed that thought must produce action, rather than linger in the mind and lead to indecisiveness.

John Dewey (1859-1952) applied pragmatist philosophy in his progressive approaches. He believed that learners must adapt to each other and to their environment. Schools should emphasize the subject matter of social experience. All learning is dependent on the context of place, time, and circumstance. Different cultural and ethnic groups learn to work cooperatively and contribute to a democratic society. The ultimate purpose is the creation of a new social order. Character development is based on making group decisions in light of consequences.

For Pragmatists, teaching methods focus on hands-on problem solving, experimenting, and projects, often having students work in groups. Curriculum should bring the disciplines together to focus on solving problems in an interdisciplinary way. Rather than passing down organized bodies of knowledge to new learners, Pragmatists believe that learners should apply their

knowledge to real situations through experimental inquiry. This prepares students for citizenship, daily living, and future careers.

Existentialism

The nature of reality for Existentialists is subjective, and lies within the individual. The physical world has no inherent meaning outside of human existence. Individual choice and individual standards rather than external standards are central. Existence comes before any definition of what we are. We define ourselves in relationship to that existence by the choices we make. We should not accept anyone else's predetermined philosophical system; rather, we must take responsibility for deciding who we are. The focus is on freedom, the development of authentic individuals, as we make meaning of our lives.

There are several different orientations within the existentialist philosophy. Soren Kierkegaard (1813-1855), a Danish minister and philosopher, is considered to be the founder of existentialism. His was a Christian orientation. Another group of existentialists, largely European, believes that we must recognize the finiteness of our lives on this small and fragile planet, rather than believing in salvation through God. Our existence is not guaranteed in an after life, so there is tension about life and the certainty of death, of hope or despair. Unlike the more austere European approaches where the universe is seen as meaningless when faced with the certainty of the end of existence, American existentialists have focused more on human potential and the quest for personal meaning. Values clarification is an outgrowth of this movement. Following the bleak period of World War II, the French philosopher, Jean Paul Sartre, suggested that for youth, the existential moment arises when young persons realize for the first time that choice is theirs, that they are responsible for themselves. Their question becomes "Who am I and what should I do?

Related to education, the subject matter of existentialist classrooms should be a matter of personal choice. Teachers view the individual as an entity within a social context in which the learner must confront others' views to clarify his or her own. Character development emphasizes individual responsibility for decisions. Real answers come from within the individual, not from outside authority. Examining life through authentic thinking involves students in genuine learning experiences. Existentialists are opposed to thinking about students as objects to be measured, tracked, or standardized. Such educators want the educational experience to focus on creating opportunities for self-direction and self actualization. They start with the student, rather than on curriculum content.

Unit - III: Educational Thinkers (Indian) (14 hours)
Analytical study of thoughts of the Indian thinkers in relation to their formulation about aims of education, curriculum, teaching methodology and teacher:
RabindraNath Tagore

Mahatma Gandhi
Sri Aurobindo
J. Krishnamurti
Rabindranath Tagore on Education

Introduction

Rabindranath Tagore was a prominent poet and profound thinker. He was born in Calcutta on 6 May 1860. Although he was not educated in any university, he was a clearly a man of learning. He had his own original ideas about education, which led him to establish an educational institution named VishvaBharati in Shantiniketan with the intention of re-opening the channel of communication between the East and the West. He travelled extensively in different countries of the world, and was a successful mediator between the Eastern and Western cultures.

It has been generally accepted that different places have their own culture and tradition. Generally, Western philosophy of education comprises two schools, traditional and modern. It has its roots in Athens, Rome and Judeo-Christianity, whilst Tagore's philosophy of education draws its inspiration from ancient Indian philosophy of education. However, it could be said that Tagore's philosophy of education may become a representation of the Eastern philosophy apart from others like Islam, Confucianism, Taoism, and Mahayana Buddhism. By looking on Western countries and India, both countries have distinct differences in their ways of developing and shaping an individual, in terms of skills and attitudes. Thus, different cultures will have different philosophies, which results in different ways of doing things, especially in educating the next generation.

Western Education in India

Philosophy of education developed by the West was shaped through philosophical thought, which manifested through an idea characterized by Materialism, Idealism, Secularism, and Rationalism. This philosophical thinking, however, affected the concept, interpretation and the definition of the knowledge itself. Rene Descartes, for instance, uses ratio as the sole criteria to measure the truth. Other western philosophers, such as John Locke, Immanuel Kant, Martin Heidegger, Emilio Betti, and Hans-Georg Gadammer, among others, also emphasize the use of ratio and the five senses as their source of knowledge, by which it creates a variety stream of philosophies and thoughts, such as empiricism, humanism, capitalism, existentialism, relativism,

atheism, and many others that profoundly affect a number of disciplines, such as philosophy, science, sociology, psychology, politics, economics, and so on.

Consequently, western philosophy of education is not established on revelation or any religious tenets but being established on a cultural tradition strengthened by philosophical speculation bounded by secular life placing man in the centre as a man of ratio. Hence, the science and its ethical and moral values, administered by human ratio always experience changing. According to Syed Naquib Al-Attas, there are five factors underlying western culture and educational philosophies. First, the use of ratio to guide one in his own life.Second, posing duality between reality and truth. Third, emphasizing an existence projecting secular worldview. Fourth, the doctrine of humanism. Fifth, using history as a dominant element in natural tendency and human existence.[1] Those five factors have a very great impact on western intellectual paradigm shaping educational pattern in the west.

British Educational Approach in India

Modern education system in India initially came from British authorities. They initiated Western influence in India. Prior to the advent of the British India, Indian education system was generally private in praxis. In 1835, Lord Macauley introduced modern education in India through Wood's dispatch 1854, generally known as the Magna Charta of Indian education, which becomes the cornerstone of the current Indian education and changed the scenario. By 1857, British power finally consolidated a colonial system of education in India. Its primary aim was to prepare indigenous Indian clerks to handle local administration and the creation of a class of Indians who had been brought up in an English way. In the lower levels of education, the medium of instruction was vernacular languages, whilst for higher education the medium must be in English. British government continuously provided funds to local schools that further made many of them becoming governmentally aided.

Finding it too expensive and impossible practically to import sufficient British to operate and control the rising number of administration branches, British government planned to educate local Indian by the way that they should learn western education and become westernized both culturally and in intellectual achievement. Lord Macauley clearly said that, "we must at present do our best to form a class, who may be interpreters between us and the millions whom we govern; class of persons, Indians in blood and color, but English in taste, in opinions, in morals and intellect."[2] National universities had been established at Bombay, Madras and Calcutta. The gap between the fortunate upper classes and the vast masses of rural poor continued to widen. A new class of people came to adopt European dress, manners attitudes and life styles. Old values and traditions came to be questioned. And it was a period of social upheaval and reforms in India.

In 1844, Declaration Knowledge of English declared English as a compulsory requirement to apply to government civil services. Due to this condition, Indian traditional education system

gradually vanished for the lack of official government support. The government made English medium schools became so much popular that tremendously attracted many Indians. Consequently, traditional occupations also became obsolete.

The British control over education ended with the Indian independence on 15 August 1947. Positively, the British education system created social and political awareness within the country. It inspired literary and cultural consciousness and developed nationalistic awareness. However, it was obviously British-oriented. Its primary aim was to serve British interest and was colonial in aim and practice. The medium of instruction was an obstruction in the development of creativity. Sometimes it encouraged communal passions. The Christian missionaries and the British administrators encouraged Christian teachings within the educational institutions. However, the British philosophy of education in modern period was not conducive to national welfare. It is in this defects of the British philosophy of education as practices in India in modern period that Indian thinkers have bitterly criticized it and one of them was Rabindranath Tagore. Tagore was critical of the British philosophy of education in India. He clearly saw that its aims and means were against Indian interests and thus presented his alternative philosophies, urging Indians to accept steady and purposeful education.

Tagore's Educational Philosophy

Rabindranath Tagore was more than a resounding leading Indian thinker of India in the twentieth century. A prominent figure through his poetic brilliance, Tagore is known to India and the world as the winner of the 1913 Nobel Prize in Literature, the first non-westerner to be honored so. Ramnath Sharma depicted that there are two different thinkers of education in India, the traditional group of Indian philosophers of education on the one hand and the propagators of western philosophy of education on the other, represented by Jawaharlal Nehru and M.N. Roy. While the later were inspired greatly by the Western philosophy of education, the former, including Rabindranath, drew their inspiration from ancient Indian philosophy of education. Drawing their inspiration from ancient Indian philosophy of education, the characteristics of the traditional group can be grouped into four basic aspects: Neo-Vedanta Philosophical Basis, Integral Approach, Integral Psychology, and Synthesis of Idealism and Pragmatism.[3]

He is one among the others, such as Swami Vivekananda, Sri Aurobindo, and Mahatma Gandhi, who bitterly criticized the defects of British philosophy of education. They criticized western educational approach in India, for its aim and means were against Indian national interest, and thus presented educational philosophies. The questions to which Tagore devotes himself are: What is the aim of education? And How are we to achieve it?

Tagore's Principles of Education

The aim of education, as Rabindranath Tagore sees it, is to give one a sense of one's identity as a total man and to bring education in harmony with life.[4] It is self-realization. He believed that

this realization was the goal of education. A total man is the one who thinks of himself first and foremost as human being. What matters to him is not his birth and social status. What crucially matters to him, rather, is the conviction that he is above all a man, irrespective of his socio-economic placing, of his caste, creed, and religion.

The prevalent social condition creates a situation in which the rich family grows up with arrogance and the poor with an inferiority complex. This creates a yawning gap between the two. It is, thus, the process of education that is based on self-realization is extremely needed in order to establish a well-balanced relation with others belonging to different social strata. In order to reach this basic identity of human being, one needs to undertake processes towards this stage of a total man, a process that can only be assisted through education.

Tagore did not find any dichotomy between thought, life and philosophy. Besides, he believed that every human being is one who has potentialities to progress towards the super human being, the universal soul. His conception of the universal soul is derived from the Gita and Upanishadic philosophies. Tagore based his ideas on the ancient Indian thought. Indian tradition believes that man's soul and the universal soul are one, and that self-realization amounts to realization of integration with God.

Self-education is based on self-realization, which its process is as important as education itself. The more important thing is that the educator must have faith in himself and universal self, underlying his individual soul. All those actions, which provide a natural sense of contentment, promote educational process. Contentment is a reaction of soul and hence different with merely satisfaction and pleasure. According to Tagore's concept of self-education, the educator has to follow the three following principles:

1. Independence: Tagore believed in a complete freedom of any kind – intellectual freedom, satisfaction, decision, heart, knowledge, actions, and worship. But to achieve this freedom, the student has to practice a calm temperament, harmony, and balance. Through this process the student is able to distinguish between right and wrong, natural and superficial, relevant and irrelevant, permanent and temporal, universal and individual, etc. Consequently, after being able to make this distinction, the student can create a harmony and synthesis in what is right, natural, relevant, permanent, and the real element he has acquired and then turned to self-guidance. This independence is not to be confused with the absence of control, because it is self-control, it implies acting according to one's own rational impulse. Once this level of freedom has been achieved, there is no danger of the individual straying from his path, because his senses, intelligence, emotional feelings and all other powers are directed by his ego.

2. Perfection: Perfection implies that the student must try to develop every aspect of his personality, all the abilities and powers he has been endowed by nature. Therefore, academic learning is not merely to pass examinations, acquiring degrees or certificates with which he fulfils his livelihood. The sole aim of education is development of the child's personality which

is possible only when every aspect of the personality is given equal importance, when no part of the personality is neglected and no part is exclusively stressed.

3. Universality: Universality implies the important aspect of an enduring faith in the universal soul, which exists within himself. It is thus important to identify one's own soul with the universal soul. One can search for this universal soul not only within oneself, but in every element of nature and environment. This search is achieved by knowledge, worship and action. Once this realization of the universal soul is achieved, it becomes easier to progress further.[6]

It is, thus, evident from the above principles that the aim of Tagore's pattern of education is independence, perfection, and universality. The educator creates an environment in which the personality of the student undergoes a free, perfect, and unrestricted development.

Tagore's Educational Philosophy vis-à-vis the West

Tagore considered lack of education as the main obstacle in the way of India's progress and at the root of all its problems. Looking upon the western approach on education in India, which emphasized and focused merely on sheer placement in British administration offices and businesses in India, Tagore had bitterly criticized the idea. This had become very important in view of the fact that the civil service was saturated and as the students grew, the majority of graduates failed to get any type of white-collar jobs. The time, however, had come against which Tagore urged to attempt a change in the aims of academic learning and thus offered his own remedial idea.

According to him, academic learning becomes joyless and purely mechanical if it is looked upon merely as an instrument for getting jobs and for material and financial gains. In order to ensure the posit of becoming a total man, the aims of education should be not only as a means to a livelihood, but more importantly to promote awareness of human identity, where one comes into well-balanced relations with others. It means that the end of education is to lead us into how to live meaningfully vis-à-vis the people around us.

However, this does not mean that learning has nothing to do with subsistence, rather it should be aimed at something not only collaborated with pragmatic ends. Academic learning should enable us to understand the situations in which we are placed and to adopt proper attitudes towards them. The attitudes derived from the experiences we have in our lived situations, which involve our relations with the people around us – our relations with families and socio-political surroundings. Because education serves no real purpose in our life if we are unable to connect with the place we are in. As a result, if we are unable to connect with the milieu we are live, thus, it does not stimulate our ideas, nor does it nourish our emotions and imaginations. Tagore criticized the prevalent system of education, which puts too much stress on memory and too little on imagination and thinking.

Tagore highlights the futility of mere scholarship, the idea propounded by some western educational philosophers including Nietzsche. He then criticized any education system whose aim is on the sheer pursuit of knowledge with no end beyond it.[7] Tagore wants to make us aware of the evil of a traditional education system, that is a dry scholarship, which encourages acquisition of static ideas without contributing anything to significant living, an education which remains far away from our life. There must be no gap between ideas or theory and their application to life.

The aim of education should be to develop and nourish our beliefs, emotions, and imaginations, which enable us to assess, evaluate, and take up appropriate attitudes towards our experience in the milieu in which we live. It is this conviction that accounts for Tagore's disapproval of a system of education, which emphasizes too much of theoretical learning. Politics, say, may give us information about the process of democracy, but it cannot become beneficial if it does not bring prosperity to the people.

Tagore viewed the traditional academic learning as merely a knowledge-factory, a mechanical system producing students with machine-ground knowledge for the purpose of being examined and graded. He criticized the idea propounded by Michael Foucault in his Discipline and Punish in which he looks at educational institutions on the model of prisons of a disciplinary mechanism involving continuous surveillance, examination, training, punishment.[8] Tagore maintained that the aim of education should not be producing like a machine-made product in a factory, because each individual has a distinctive character of his own. Therefore, education system should attend to it carefully; it should enable each individual to blossom in his own way.

Nature-based Education

Tagore frustrated with the denatured situation of academic learning process and promoted the system on the model of forest solitude or under the open sky. It is by this method that gentle breezes, sunshine, green trees and plants not only to making children physically sound, but to nourishing their minds. He insists that no mind can grow properly without living in intimate communion with nature. Those situations presents to the learner a situation, which stimulates his imagination and creativity, and combats the boredom of mechanical learning. In Tapovan (The Forest School of India) Tagore asserted that the forest school was typical of the Indian system of education with its emphasis on three basic elements of Indian culture, namely Advaita (non-duality) in the field of knowledge, friendship for all in the field of feeling, and fulfillment of one's duties without concern for the outcomes in the field of action.[9]

The ideal school, according to Tagore, should be established away from the turmoil of human habitation under an open sky and surrounded by vistas of fields, trees, and plants. Living in a forest was also associated with austere pursuits and renunciation. The vast background of nature represented a grand perspective against which all objects, all feelings assumed their due proportions. He also referred to the significance of educating feeling as distinct from educating

the senses and the intellect. The word 'forest' used in this context, he explained, was not dense jungle, but Tapovana, the forest clearing.

Indian national educational system should try to discover the characteristics of the truth of its own civilization. The truth is not commercialism, imperialism or nationalism, but rather universalism. Its aim was to develop individual personality by the means of harmonious interaction and union of the spirit with the environment.

Medium of Education

The medium of education discourse also became an important point pertaining to Tagore's idea. The use of English in education prevented assimilation of what was taught and made education confined only to urban areas and the upper classes rather than rural areas. Therefore, if the vast rural masses were to benefit, it was absolutely essential to switch over to the use of Bengali in the context of Bengal at all level of education. Tagore believed that without knowledge pattern of rural living and an effort by the school to revitalize rural life, academic learning would be incomplete. And this is the reason behind the establishment of his own university, popularly known as VisvaBharati.

Tagore stressed on the unnaturalness of the system of education in India, its lacks of links with the nation and its management, which was in the hands of a foreign government. The working of the government, its court of law and its education system were conducted in a language completely meaningless to the majority of Indians. He contrasted the situation in India with what he had seen in the USSR and in Japan, where the governments had been able to educate their people within a very short time. He argued that to educate India's entire population and restoring the flow of culture from the educated classes to the rural population would not come about unless the mother-tongue was adopted as the medium of teaching.

Education as a Means of Peace

Another point from the British education result that Tagore had also criticized was the fact that the British educational process failed to develop attitudes and the spirit of inquiry. Moreover, it divided Indian people into two classes: those who received British education and those who did not. The former, comprising everyone taking from the wealthy, educated, and English speaking class living in cities and towns, whilst the latter remained almost everyone living in the countryside.

Tagore wanted science to be taught along with India's own philosophical and spiritual knowledge at Indian universities. Because science without constraint of self-knowledge leads to an endless desire for material goods and well-being, and the meaningless pursuit of the instruments of war and power, which are often the origin of conflict among nations and the source of suppression of the weaker by the stronger. That is why both spiritual and scientific

knowledge are considered by Tagore as equally important. About the place of religion in education, Tagore said: "Nature and human spirit wedded together would constitute our temple and selfless good deeds our worship."

Conclusion

Rabindranath Tagore, by his efforts and achievements, is one of a global network of pioneering educators, who have striven to create non-authoritarian learning systems appropriate to their respective surroundings. Tagore did not neglect the lesser aim of life and education, where the focus of colonial system of education was ultimately on employment. His intention was to correct this conception, without ignoring science, technology, and efforts on rural empowerment. For without these, it is impossible to revive the poor condition of people living in rural areas.

Tagore felt that young generation should aware of their national cultural heritage, grasp its significance for them, and persuaded them to learn cultures from other countries. Tagore put great emphasis on the use of a national language as the vehicle of education at all stages of education. He wanted Indian universities to integrate themselves with society and make an effort to educate people living in the countryside. Conclusively, he did not want education to remain confined to the cities and to particular classes of society.

EDUCATION POLICY AS ENVISAGED BY MAHATMA GANDHI

With the attainment of freedom in 1947, India embarked on a new era. On 15th August, 1947 people showed a definite and spontaneous indication to embrace the newness of the times. Mahatma Gandhi, whose interest had always been co-extensive with social needs, had all along been advising the Congress to take up the cause of education from pre-independence times. Mahatma Gandhi had, earlier in his career, stated, like Ruskin, that "Speed is not always progress", and according to that idea he had resolutely set his face against accepting all type of education as of equal importance. So, education, according to Mahatma Gandhi, was not exactly a pursuit of freedom of expression, but a modified method to specifically suit the goal of nation building of the new India. He was thinking of a revolutionary type of education for upliftment of the vast rural India as a prime goal, and due to his insistence National Educational Conference was held at Wardha in as early as 1937 to set the ball rolling. A Committee of distinguished educationists, headed by Dr.ZakirHossain, was entrusted with planning a syllabus for basic education. The report of the Committee along with the detailed syllabus was published in 1938. In 1938 the Indian National Congress at its 51st session at Haripura accepted, certainly under guidance of Mahatma Gandhi, the principle of Basic National Education, and authorized the formation of an All-India Board to work out a practical implement able program. Next month, the Board was formed, under the name and style of Hindustani TamiliSangh, under the advice

and guidance of Mahatma Gandhi, and immediately it's work took concrete shape. The basic concepts can be noted as:-

1. Free and compulsory education for seven years on a nation wide scale.
2. The medium of instruction must be in mother tongue.
3. Through out this period education should centre round some form of manual and productive work, and all other activities to be developed or training to be given should, as far as possible, be integrally related to handicraft pattern chosen with regard to the environment of the child. The idea was to develop a basic craft model adopted to suit different areas of learning, including say basic Mathematics or Science, and it was even envisaged that those craftworks be sold to the Nation to make education self reliant. Generally speaking, it was felt even at that time that the prevalent education with the colonial legacy led us to learn from books and did not allow us to garner knowledge by perception. The use of craft had been no doubt accepted as an education technique, and the Abbot-Wood report drew the attention of educationists here in India to the subject, but it was never thought of as the medium of instruction before Mahatma Gandhi had boldly placed it as such.

The basic features of the Wardha scheme could be summarized into two relevant factors. They were that education should be imparted through a basic craft at least during the first seven years of basic education, and that the sale of products of craftwork done under the system should make the system self-supporting. The principle that education should be imparted not through passive reception but through a productive activity was an acceptable principle to the educationists of the world. Among all kind of productive activities craftwork was acknowledged to be suitable for educational purposes. Psychologically it was sound as it saved the child from the tyranny of purely academic and theoretical instructions and balanced the intellectual and practical elements in child's experience. It was also envisaged that by sale of craftworks the student might be able to earn some money as well. Few communist thinkers of India in that era welcomed the Wardha scheme, as Mahatma Gandhi kind of insisted that all work should be purposeful and productive even in the context of basic education. The communist intellectuals thought that education through work would be a revolutionary program for leveling and equalizing, where every citizen would be groomed to perform his/her quota of work. The idea was very much in consonance of the life-philosophy of Mahatma Gandhi, as every effort conceived by him was ultimately a struggle for freedom—freedom from ignorance, inefficiency, insecurity, oppression, exploitation, injustice. Naturally, to Mahatma Gandhi, education needed to be designed as a tool to attain freedom, particularly freedom for the rural people of India. Cult of power created by assimilating knowledge without a definite end view would seem to Mahatma Gandhi a dangerous process. He could only conceive education as a dynamic force leading to a definite destination. In Mahatma's own words" My plan to impart primary education through the medium of village handicrafts like spinning and carding, etc, is thus conceived as the spearhead of a silent non-violent social revolution fraught with the most far reaching consequences. It will provide a healthy and moral basis of relationship between the city and the village and thus go a long way towards eradicating some of the worst evils of present social insecurity and poisoned relationship between the classes. It will check the progressive decay of our villages and lay foundation for a

juster social order in which there is no unnatural division between the 'have' and 'have-nots' and everybody is assured of a living wage and right to freedom. Lastly by obviating the necessity for highly specialized talent, it would place the destiny of the masses, as it were, in their own hands."

A LOOK INTO RABINDRANATH TAGORE'S PHILOSOPHY ON EDUCATION AND A COMPARATIVE STUDY WITH THE GANDHIAN PRINCIPLE

Rabindranath Tagore, who is yet to be analyzed in full as one of the world's prime educational thinker and experimenter, approached education, as he approached life as a poet, with a totality of vision. The dominating purpose of Mahatma Gandhi's vision was to ensure the production of character on a mass scale, characters which may develop individual possibilities freely within limits of one supreme ideal of 'Truth, through self-reliance' which it must accept and strive to realize in cooperation with brothers of the same ideology. It was in fact a war between right and wrong which had as much to be waged externally between one man and another, one class and another, as internally within the mind of each man. Rabindranath Tagore had not disregarded what one might call the operational aspect of truth, but in his system the main emphasis was on its manifestation. One eternal aim of human life is to know and to realize. The noblest 'Sadhana' in ancient India aimed at this communion of individual self with the universe around. Education according to Rabindranath Tagore was a process through which the mind could grow and reach out of itself and establish a Yoga', a community of spirit with man and nature. Necessarily, therefore, Rabindranath Tagore also emphasized character, but in a different manner. Whereas Mahatma Gandhi depended on a common mission as the chief factor in character building, Tagore depended on a common religion, the religion of man. A mission makes an urgent demand and usually obtains a quicker response. A religion is slow in its growth, though it brings in much more of human personality under its compass. In fact in both the views 'truth' is indispensable. One must know truth as it affects the life of the human race as also of the individual, in order to live and behave intelligently in the social context. And one must at the same time know truth independently of utilitarian purposes in order that individual mind may find its richest fulfillment. We are aware that the poet, the scientist, the prophet and even the historian to be in pursuit of truths which can not be harnessed to any utilitarian purpose.

Or we may say that whereas Mahatma Gandhi concentrated on the eternal problem of evil and evolved a philosophy of action, something like a simplified version of 'Karma-Yoga' suited to the needs and abilities of every man in India, Tagore centered his philosophy on the joy of life, the eternal 'Ananda' of realization and expression which did not exclude action, but in fact put fair amount of importance to it. Mahatma Gandhi tried to establish the everyday reality of life in his system and tried to save education from the danger of social 'escapism' of any sort. Rabindranath Tagore presented reality in its largest perspective yet attained by man, and tried to save education from the danger of all narrow limitations of place and time and people. Both their arguments were powerful, as both were philosophies, Mahatma Gandhi and Rabindranath Tagore lived with deep earnest in their real life. On a closer look it appears that Rabindranath Tagore had a much enlightened concept about education, and yet from the social perspective of

emerging independent India, it seems Mahatma Gandhi's concept of education was perhaps more relevant for India at that time.

We may have a look into Rabindranath Tagore's own words on education to get an idea what he wanted to profess-"I prepared for my children a real 'home-coming' at my school in the Ashrama. Among other subjects learnt in the open air under the shade of trees they had their music and picture-making; they had their dramatic performances, activities that were the expression of life.

A large part of man can never find its expression in the mere language of words. It must therefore seek for other languages—lines and colours, sounds and movements. Though our mastery of these, we not only make our whole nature articulate, but also understand man in all his attempts to reveal his innermost being in every age and time. The great use of Education is not merely to collect facts, but to know man and to make oneself known to man.

It is the duty of every human being to master, at least to some extent, not only the language of intellect, but also that of the personality which is the language of Art. It is a great world of reality for man, – vast and profound,- this world which tends to grow along with his own creative nature.

Teaching of religion, religion of man- to be precise, can never be imparted in the form of lessons, it exists where there is religion in living, and to learn it one has to live it—Religion is not a fractional thing that it can be doled out in fixed weekly or daily measures as one among various subjects in school syllabus. It is the truth of our complete being, the consciousness of our personal relationship with the infinite. It is the true center of gravity of our life."

WHAT ACTUALLY HAPPENED IN INDEPENDENT INDIA

What actually happened in post-independent India is that Indian think tank on education just did not adhere to any of the above two ideas. The reasons can be many.

National Attitude on Mahatma Gandhi's Principle on Basic Education:-First of all, the sudden death of Mahatma Gandhi in 1948, definitely put his idea on basic education to a halt. It was certainly an unfortunate development, as the Wardha National Education Commission was set up in 1937, and came out with its report as early as 1938, and a National attempt to establish the concept was pursued fairly vigorously. In pre-independent India the provincial governments tried to implement the program in Bihar, Mumbai and UP at to some extent in Orissa. Teacher's training schools to prepare teachers to train students according to Wardha Commission reports were also set up at various centers in India, one being at Balarampur of Midnapore district in West Bengal. There were of course quite a few critics of Mahatma Gandhi's idea of a utilitarian type of basic education, but nevertheless it was accepted by the Congress as a national policy to be implemented in post-independence India and a great deal of interest was shown to put the revolutionary idea at work. But in reality, after Mahatma Gandhi's demise, the whole idea was quietly buried, never to be reopened at any stage in post independent India till date. Whether it was buried because the later generation didn't like the idea, or it was buried for simply logistic problems, or whether the Government of India at that point of time didn't have the will and power to dismantle the running education system inherited from the colonial rulers and initiate

the gigantic change, can be a matter of debate. But in reality a great vision was left to rot rather unceremoniously. In effect India could not establish an Indian concept of education, as was the dream of Mahatma Gandhi or Rabindranath Tagore and just let the colonial pattern of education to evolve in unplanned manner in post independent India. As the colonial pattern was basically an alien pattern, the education system in India always maintained the alien streak, we can not really say with conviction that the education we had, could really create a deep resonance in our Indian hearts.

National Attitude on Rabindranath Tagore's Vision on Education:-At the late part of his life, Rabindranath Tagore requested Mahatma Gandhi to let VisvaBharati University be taken over by the Government of India after independence. In keeping with the wish, in 1951, by passing an act in parliament, VisvaBharati University was converted to a Central University. But it was a case of passive support from Government of India. Government of India promised to support the university financially, but did not take the responsibility to propagate the idea of education as envisaged by Rabindranath Tagore. The Government allowed VisvaBharati University to run according to what the people at VisvaBharati thought. In effect that would mean the University was financially supported but the propagation of the cause of the university was completely left to the university itself, Government of India did not want to either project the ideas on education of Rabindranath Tagore and neither they were interested to be directly engaged in VisvaBharati University. The university was left alone to pursue and further the vision of education by Rabindranath Tagore and the nation called India shunned all its responsibility in this matter.
On the other hand, as time passed, people in VisvaBharati University could not hold on to both the standards of being unique as well as distinguished as was the case when Rabindranath Tagore was alive. Initially VisvaBharati University was given a relatively free hand to maintain that standard, but it appears the university had probably failed on many (but not all) fronts to utilize that freedom. Later on, when University Grants Commission (UGC) was formed, and fund movement from UGC to Universities in India became a highly structured and regulated affair, VisvaBharati University got gradually sucked into the general structure of Indian Universities, and is on the verge of losing its special identity designed so carefully by Rabindranath Tagore. Of course it was primarily a failure of the movers in VisvaBharati University, even then, we, the people of India must admit that the Nation called India did not really support Rabindranath Tagore's vision on education either. And when we realize that like Mahatma Gandhi, Rabindranath Tagore, is also an invaluable national treasure, the loss naturally becomes a loss for the nation, not just a loss of a tiny place called Santiniketan, where Tagore established his school. Which could have been a national movement in Education was allowed to degenerate in a small place in Santiniketan.

The Scenario now in 2010:The End Result:-When we take into account the policies on education of Mahatma Gandhi and Rabindranath Tagore, both stalwarts of pre-independence India, and both being world figures for the sheer brilliance of their manifold visions, it becomes fairly clear that the nation called India paid scant respect, at least to their ideals on education in post-independent India. Rabindranath Tagore's vision of education, based on the concept of religion

of man, is basically not bound to any time frame, and hence can be revived or re-established in any part of the world at any point of time. But Mahatma Gandhi's principle on basic education was conceived to be a gigantic move to be initiated in new independent India, and hence can not practically be revived after 63 years of Indian Independence in 2010. So, we have lost Mahatma Gandhi's vision on education forever, whereas we are yet to try to realize the value of Rabindranath Tagore's vision on education.

The education scene in India in 2010 is somewhat like this, education imparted to the village children is still inadequate in either the utilitarian or holistic terms, or in short education in India could not stabilize the village life of India even after 63 years of independence. The villagers of India still live with an uncertain future probing hard into their lives, neither are they aligned to provide a great thrust to development of India. In higher education, very recently, the Cabinet of Ministers has approved a bill to allow foreign universities to set up campuses in India to offer their degrees, which will be put in the Parliament for voting. Only the Left Parties are traditionally opposed to this bill, and their number being not too significant it is expected that the bill will sail through in the Parliament. According to HonblKapilSibal, the present Human Resource and Development Minister of Government of India, this bill is going to open more opportunities to Indian students and the education scenario will get more competitive to encourage an improvement in general standard of higher education in India. Our past experience of co-existence of Multi Nationals, Private Sector and Public Sector in the business sector has conclusively proved that standards do improve over time through competition, even the lethargic Public Sector behemoths in India are no more that inefficient that they used to be, and some of them have in fact risen to the occasion rather strongly. So we may expect an improvement in quality of higher education and few new opportunities to emerge if foreign universities set up their campuses here, and as per initial information universities like Harvard, Oxford, Cambridge, Leeds, Yale and Columbia have already expressed their interest in this matter.
Now, the private sector of India through ASSOCHAM has pitched in by expressing an interest to run a few 'innovative universities' on a profit generating basis. Whatever may be the effect of these ventures, one thing is for sure that higher education is going to be a fairly costly affair and a major part of education will be related to the forces of the market, and there is no indication that basic education is going to change in any perceptible manner.

So, in essence, instead of finding an Indian identity in education, we are again looking forward to the West to teach us…that is the conclusion of this article. And frankly speaking, that's the path we have been moving along for last 150 years or so!!

Our system of education is the legacy of the colonial past. Sixty years have passed since we attained independence, but even though, promised during the freedom struggle, we have not been able to change the system, except very marginally. The country needs a kind of education that is not yet being conceived, although greatest pioneers of the freedom struggle have already given us the glimpses of that education.

If India has to play a leading role in meeting the challenges of the contemporary civilization and also the contemporary crisis; we have to redesign our Education System during the next ten years.

EducationChild, Teacher and Teacher Education

The children of today are different in the sense that they are,-future-oriented; they tend to be more and more comprehensive, global and universal. They attach a great value to the virtues of friendship and commitment to the relations that are rooted in impartiality, team spirit and freedom from rigidities of conventions, dogmas and all the conflicts of ideologies that prevent free inquiry leading up to discoveries and inventions that will sub-serve the ideals of mutuality and harmony. Correspondingly the teachers of today and tomorrow have to be different; their roles have to be more stringent and multisided, devoted to the development of integral personality, wide vision of the future of nationalism and internationalism. Teachers of today and tomorrow need to have new programmes of training, which will take care of new roles of the teachers and new trends of the synthesis of East and the West, and as agents of change from old to the new.

Education at Crossroads

The twentieth century has been an unquiet age of ferment, chaos of ideas and inventions, clash of enormous forces, creation, catastrophe and dissolution amid the formidable agony and tension of the body and soul of humankind. In the 21st century we need to turn to a new orientation that we require in the field of education.

A National Agenda for Education

The contemporary scene of India compels everyone to turn to education as the central key to the road to regeneration. Unfortunately, our educational system is suffering from long-standing negligence and maladies and unless drastic steps are taken to bring radical and revolutionary changes, it would be futile to expect education to perform any miracle.

Education for Tomorrow

After centuries of experiments, materialism is giving way to the pressures of new discoveries which require exploration of the physical and spiritual domains. It has now become clear that the knowledge of the Spirit and knowledge of Matter need to be blended and synthesized, and in doing so, all that is intermediate between Spirit and Matter has all to be perfected and brought into unity in complete integration. All this has to be done both at the collective level and at the individual level, and in doing so; we shall find necessary steps to develop Integral Education.
Education for Character Development

The present crisis is a crisis of character, and unless we radically change objectives, contents and methods of education, we cannot bring about regeneration of India. It is, however, necessary to have greater clarity as to how education for character development can be implemented and what hope we can foster to help our children to develop the latent powers of illumination, courage, fearlessness, humanism, dedication and universality.

Innovations in Education

The country needs a kind of education that is not yet being conceived, although greatest pioneers of the freedom struggle have already given us the glimpses of that education.If education has to reflect the soul of India. If India has to be protected from dogmatic or agnostic or sceptical Materialism and its barbaric invasion,- then India has to be revitalized, and refashioned. We have to redesign our Education System during the next ten years.

JidduKrishnamurti

For most of JidduKrishnamurti's life what he said and wrote sparked both interest and controversy. His observations on religion, nationalism, tradition, organizations, and relationships often ran counter to the convention of the day. If they are less startling today, it is either due to the effect his insights have had on common consciousness or an indication of the extent to which he was ahead of his time. But Krishnamurti's insights on education are still radical and frequently misunderstood or dismissed as impractical. This is probably due largely to the fact that Krishnamurti presents education as a religious activity in an age when most people still see it as preparation for succeeding in a secular world.

Throughout the ages sages have warned us that we can't see what is true even when it is presented to us because that which is true isn't what we expect or want to hear. The traditional western symbol for this is choosing Barabbas; choosing what is familiar or most like us over what is true or sacred. This is as true in educational matters as it is in religious ones. Modern education is so obviously failing to solve the world's problems, is so rightly criticised for not meeting societies' aspirations, and is so clearly unable to prepare people for the fundamental challenges of living. To solve these problems, we seem to need educational insights that marry the most profound learning possible with the everyday; the subtle with the mundane; or to put it another way, the sacred with the secular. I feel JidduKrishnamurti's insights into education are such a marriage. I feel they are radical, that they meet the challenges of living at a profound level, and they do so at a time when such insights are desperately needed. Of all the many subjects that Krishnamurti addressed in his more than seventy years of writing books and speaking in public, I believe it is Krishnamurti's insights into education that most people will eventually feel has had the greatest effect on the world.

JidduKrishnamurti's interest in education was long standing and always passionate. In what is perhaps his first book, "Education As Service" (1912), we see his concern for education and the introduction of a few themes that remain in his work. We hear the voice of the seventeen year old Krishnamurti writing from his heartfelt experiences when he says in the foreword,

Many of the suggestions made in this little book come from my own memories of early school life;…. I have myself experienced both the right way of teaching and the wrong way, and therefore I want to help others towards the right way. (Krishnamurti 1912)
And for the rest of his life he did try to help others towards a better form of education.

To address my present theme, which is that for JidduKrishnamurti education is a religious activity, I will need to say something about topics I would much prefer avoiding. Partly I would prefer avoiding them because in the space of this lecture I can say only too little to do them justice. I would also prefer avoiding them because any coverage of these topics, no matter what space was available, would probably be contentious because:

Krishnamurti's work is large, subtle, and complex;

Krishnamurti did not explicitly define positions; instead, his understanding is interwoven through out his work. This is further complicated by the evolution in his manner of expression that occurred over his lifetime, so that two comments taken out of context and separated by decades seem to contradict each other (though, taken in context, they are not contradictory); and
He did not present his insights in traditional intellectual forms, which would have made summarisation easier. Consequently, we are left with a kind of translation – translating Krishnamurti's work, which is partly apophatic, into an expository presentation. And, as with all processes of translation, something is lost, and those who know the original see the loss, and rightly complain.
The topics which I feel I can not avoid are: 1.) JidduKrishnamurti's approach to what is religious or religiousness or religiosity, 2.) his approach to the nature of human beings, and 3.) his approach to the nature of education. Unfortunately, it would not be possible to address the topic of this paper, without making at least some attempt at explicating these aspects of Krishnamurti's work, so I'm afraid this is very much a case of 'a fool rushing in where wise men fear to tread'.

Krishnamurti's approach to the nature of the religious, religiosity, religiousness

It would be far easier to say what, for JidduKrishnamurti, the religious or religiousness or religiosity isn't than to say what it is. One very specific thing that is isn't is any part of any

religion. Krishnamurti felt that what is sacred or truly religious could not be conditional, culture-bound or time-bound. Consequently, he felt that what is religious could not be contained by or subject to any dogma, belief, or authority. Krishnamurti's approach to a religiousness that is free of religion would be an interesting subject for those concerned with the challenges of values, morals, or religious education in today's pluralist world, but it is not a subject I can address here.

If that which is sacred cannot be related to dogma, ritual, buildings, authorities, or symbols, then what does man have that can make contact with the sacred? Krishnamurti felt that the bridge from the secular to the sacred is a particular consciousness. It is a consciousness that sees things as they are; one that is free of the distortions of conditioning and free of the limitations of thought (while still employing thought). It is a consciousness that has transcended the imperatives of the self or ego and so knows compassion or selfless love. It is a consciousness that knows silence and sees beauty and lives joy.

JidduKrishnamurti felt that the sacred is the foundation of all things, lies at the origin of all things, and so is that which is irreducible or can't be broken into more fundamental elements. He felt that all things are part of a unity or integrated whole, and that that integrated whole is sacred. The word 'integrated' is used here as an adjective not a verb – it is not that things can be integrated or brought together, but rather that all things always are constituent or component parts that make up the whole in such a way that it is the whole is the sine quo non of the parts. The closest material analogy is perhaps a hologram – if a hologram is smashed, each fragment contains the whole hologram. Consequently, there can be no development of a part which does not affect the whole, and there can be benefit to a part this is detrimental to the whole.

As the integrated whole (or that which is religious or sacred) is always involved, it makes no sense to think of sequentially developing particulars first and the whole later (i.e. intellectual development first and a sense of the sacred later, etc.). The particulars are constituents of the whole and they must be dealt with together.

Krishnamurti's approach to the nature of human beings

Krishnamurti's work on the nature of human beings is vast since he arguably spent more than seventy years writing and speaking about the human condition. I must again contain my comments to just those few which seem necessary for the theme of this paper.

JidduKrishnamurti saw human beings as having different facets (like intellects, emotions, appetites, bodies, etc.) but the whole of which the facets are aspects is more important. Humans have minds as well as brains (more will be said on this later), and it is the consciousness that minds are capable of that can perceive what is religious – the integrated whole (though this should not be confused with some notion of omniscience or seeing everything), and it is to the full flowering of the mind that Krishnamurti felt education should direct itself. The human brain, for reasons too complex to go into here, normally works by fragmenting the whole, and one very

important task that the brain needs to learn is to stop this fragmenting process when it is not necessary. Consequently, as possessors of both brains and minds, humans have the capacity of participating in the universe at many different levels, from the particular to the general. Like a Buddhist, one might consider the most real to be that which is most general or generative. Or, like a hard scientist, one might consider most real that which is most particular. For Krishnamurti, human beings have the capacity to venture to both limits and to unite them.

Krishnamurti's approach to the nature of education

As much will be said throughout this paper on Krishnamurti's perspective on education, I can confine my summary comments here to saying simply that education was seen as towards the fullest development of the full human being. From the full body of his work, we can conclude that, for Krishnamurti, education is 1.) educating the whole person (all parts of the person), 2.) educating the person as a whole (not as an assemblage of parts), and 3.) educating the person within a whole (as part of society, humanity, nature, etc.) from which it is not meaningful to extract that person. From the above it probably goes without saying, though it can not be said often enough, education is not about preparation for only a part of life (like work) but is about preparation for the whole of life and the deepest aspects of living.

Now that some attempt has been made at summarisingJidduKrishnamurti's approach to the nature of religiousness/religiosity, the nature of human beings, and the nature of education, I will try to support the main theme of this paper by presenting what Krishnamurti said about 1.) theintentions of education, 2.) the physical nature of the places in which education occurs, and 3.) the participants in education – the students and staff. I use the expression 'educational centres' instead of 'schools' as this is often the expression that Krishnamurti used, and because the educational centres that he founded were also meant to be places for adults to learn. In English, or rather in the English of England, schools are specifically places for younger students. To support my theme I will show how Krishnamurti described the three elements mentioned above (the intentions, the places, and the participants) in religious terms, which has the added benefit of seeing the relationship they have with one another. I believe these three elements are the focus of much, if not most, of Krishnamurti's work on education.

1. The intentions of education

Krishnamurti repeatedly stated the intentions of the education centres he founded in very unequivocal terms, and in very religious ones.

… children… must be educated rightly… educated so that they become religious human beings. (Krishnamurti 1979)
Surely they must be centres of learning a way of life which is not based on pleasure, on self-centered activities, but on the understanding of correct action, the depth and beauty of

relationship, and the sacredness of a religious life. (Krishnamurti 1981b) (Letter dated 15th October 1980)

These places exist for the enlightenment of man (Krishnamurti 1981b) (letter of 15th October 1979)

Part of what is religious (as stated previously) is having a consciousness that sees reality, that sees 'what is'. The difference between understanding what one is and striving to become something that one isn't is mirrored in the difference between wanting to discover 'what is' and striving to change 'what is'. JidduKrishnamurti didn't deny growth or change, in fact he applauded it. But meaningful growth and real material change without the all too frequent unfortunate side effects cannot be produced by just ensuring young people acquire knowledge and skills, and teaching them to conform to the strictures and demands of society in order to get on in life. In emphasising the latter, parents may comfort themselves that they are helping their children have material security, and schools may congratulate themselves on their examination results, but in Krishnamurti's view they are only adding to the sorrows and violence of the world. He decries the fact that most education is to…

…acquire a job or use that knowledge for self-satisfaction, for self-aggrandisement, to get on in the world.

Merely to cultivate technical capacity without understanding what is true freedom leads to destruction, to greater wars; and that is actually what is happening in the world. (Krishnamurti 1953a)

Merely to stuff the child with a lot of information, making him pass examinations, is the most unintelligent form of education. (Krishnamurti 1948)

Krishnamurti often stated that the purpose of education is to bring about freedom, love, "the flowering of goodness" and the complete transformation of society. He specifically contrasts this to what he feels are the intentions of most schools which emphasise preparing young people to succeed materially in the society that exists (or a slightly altered one). Even though it is fashionable for schools to declare loftier goals, it is instructive to examine how much undivided attention is dedicated during the day to such lofty goals and how much time is given to preparation for earning a living. It is also instructive to examine what are felt to be the imperatives that shape the educational experience – things like the use of space, who and what determines pedagogic activities, the use of time, and what is assessed, by whom and for what.

As previously mentioned, a constant theme in JidduKrishnamurti's declarations of the intentions of education is freedom, but freedom for Krishnamurti is more inner in character than political. Of course, there is a connection between psychological freedom and outward compulsion – it is difficult to help a student find the former in a climate dominated by the latter – but it is not political freedom that interests Krishnamurti. Rather he is interested in the deeper freedom of the psyche and the spirit, the inner liberation that he felt was both the means and the ends of education.

Freedom is at the beginning, it is not something to be gained at the end. (Krishnamurti 1953c) (Chapter 6)
There is no freedom at the end of compulsion; the outcome of compulsion is compulsion. (Krishnamurti 1953b)
If you dominate a child, compel him to fit into a pattern, however idealistic, will he be free at the end of it? If we want to bring about a true revolution in education, there must obviously be freedom at the very beginning, which means that both the parent and the teacher must be concerned with freedom and not with how to help the child to become this or that. (Krishnamurti 1953b)
For JidduKrishnamurti, the intentions of education must be the inner transformation and liberation of the human being and, from that, society would be transformed. Education is intended to assist people to become truly religious. These intentions must not be just pleasant sounding ideals to which one pays lip service, and they are not to be arrived at by their opposites. And the religious intentions are not for some eventual goal, but for life in educational centres from moment to moment.

2. The physical nature of the places of education

Krishnamurti felt that the physical nature of educational centres was very important. He maintained that we are affected or informed by and therefore educated by far more than we suspect, and this is especially true of young impressionable minds. I will focus on what I believe to be the three elements that Krishnamurti spoke of most concerning the physicality of educational centres – 1.) the aesthetics, which includes order, 2.) special areas that JidduKrishnamurti felt should exist in the centres he founded, and by extension we can assume he would feel should exist in all schools, and 3.) the atmosphere he felt should prevail and which he usually spoke of as part of the physical nature of the centres, though one can argue that they are material only in a very special sense. Again, in keeping with the theme of my paper, I will show that Krishnamurti spoke of these four elements in religious terms.

a) Aesthetics. The schools Krishnamurti founded are very beautiful places, and this is not by accident. Beauty is important, not just because it is pleasing, but because sensitivity to beauty is related to being religious and indispensable to the healthy growth of a child.

To be religious is to be sensitive to reality. Your total being – body, mind, and heart – is sensitive to beauty and ugliness, to the donkey tied to a post, to the poverty and filth in this town, to laughter and tears, to everything about you. From this sensitivity for the whole of existence springs goodness, love; …(Krishnamurti 1964) (chapter 23)
He himself was extremely attentive to details and critical of things that were badly done. He was very understanding if things could not be better because of real constraints, and he never pushed the administrators of his schools to produce anything that was beyond their means. However, if things were not good through slipshod handling, neglect or lack of sensitivity, then he felt it ran counter to an essential element in education as it ran counter to the religious life that the staff are

meant to be living. To expect sensitivity to develop in a child when the staff are insensitive, is to teach a very strong lesson in hypocrisy. Like several holistic educators before him (i.e. Rousseau, Pestalozzi, and Fröbel) JidduKrishnamurti felt that some very important things could not be taught by proscription, these things need to be lived in the presence of the learner for them to be learned. And, like Keats, whose poetry he greatly admired, Krishnamurti felt that beauty was related to truth.

Perhaps we should include in this discussion on aesthetics what Krishnamurti felt about nature and education. This makes sense in that for Krishnamurti, nature was both beautiful and a demonstration of order. The educational centresKrishnamurti founded are invariably in parks or countryside. This was not just because he felt that nature was pleasing, but because he felt that a relationship with nature had important implications for living sanely and to a relationship with the sacred. He would not, however, condemn as hopeless, inner-city schools that don't have such luxuries, because nature was wholly available in the smallest part; a blade of grass, a house plant, or a gold fish.

That healing [of the mind] gradually takes place if you are with nature, with that orange on the tree, and the blade of grass that pushes through the cement, and the hills covered, hidden, by the clouds.
This is not sentiment or romantic imagination but a reality of a relationship with everything that lives and moves on the earth. (Krishnamurti 1987) (entry dated 25th February 1983)
If you establish a relationship with it [nature] then you have relationship with mankind… But if you have no relationship with the living things on this earth you may lose whatever relationship you have with humanity, with human beings. (Krishnamurti 1987)

b) Special areas that should exist in educational centres. Another physical aspect of the educational centresJidduKrishnamurti created, and another indication of the religiousness of education, was his insistence that the schools have special places for silence. He often spoke to the students of the importance of a quiet mind or silence so that they could observe their thoughts.

You see meditation means to have a very quiet, still mind, not a chattering mind; to have a really quiet body, quiet mind so that your mind becomes religious. (Krishnamurti 1981a)
The mind of a religious man is very quiet, sane, rational, logical – and one needs such a mind… (Krishnamurti 1962)
JidduKrishnamurti usually asked that these special places not be on the periphery of the schools, but in the centre of the them. Like a sanctum sanctorum, they were to be the heart, the space that generated the rest of the school. Contrary to most conceptions of schools, Krishnamurti felt that action was to be on the periphery and the insight born of silence was to be at the centre.

c) Atmospheres. While atmospheres are generated by aesthetics, the setting, and the effect of special areas in educational centres, there are also atmospheres that are generated by the

participants. At least part of the atmospheres generated by people can be deliberately generated. This atmosphere is another link in understanding the religiousness of education. At Brockwood (the school that Krishnamurti founded in England) Krishnamurti frequently talked about the importance of generating an atmosphere that would itself have an effect on students the moment they arrived. Long discussions were held with the staff at Brockwood about the nature of such an atmosphere and how it might come about. JidduKrishnamurti had no doubt that it was possible and necessary. It had more the ring of something religious than anything commonly associated with a school. It was something sacred that worked its own magic on people in a profound and transforming way. Without that real religious atmosphere, he felt that a school was empty, or worse, it was a parody of itself, a kind of Disneyesque impression of something real but with no real substance.

Such an atmosphere, though distinct from the people in the schools, could not be separated from the people. A place may carry an atmosphere, but it is the people who create it or destroy it. To illustrate this he would cite places that at one time were known to have had very special and powerful atmospheres but which were destroyed through neglect, incompetence or corrupt behaviour. Examples of this are some of the great cathedrals or temples that have become tourist industries or money making enterprises, and so have lost any sense of religiousness. They became lifeless and without meaning even though they maintained all the physical appearance of their former selves.

There was a very memorable discussion with JidduKrishnamurti at the end of his life when several representatives of different schools he founded in India, America, and England went for a walk with him. He asked us all what would be left in his schools to indicate that they were Krishnamurti schools if the name Krishnamurti was removed and if all his books, audio tapes and video tapes were gone; and if something was still there, what would sustain it. It was a question about the all important ineffable qualities, the atmospheres of the educational centres, and it was a question about what we were generating; and it was a question answered by a very uncomfortable and telling silence.

3. The participants in education

There are, generally speaking, two kinds of participants in educational centres: staff and students. JidduKrishnamurti felt that any adult that was regularly in one of the centres was a staff member (regardless of function) and because of their regular contact with at least the educational environment if not the students, then they were in the position of educators. Everyone, staff and students, had something religious about their natures just by virtue of being human, but they had something more than that by virtue of their being in education. Krishnamurti didn't speak of them as religious figures (such as priests or accolades) but one thing that distinguishes participants in education from participants in some other social organizations (i.e. police officers, nurses, bankers, etc.) is that people in education must have religiousness central to their overall

intention and central to the nature of the life they lived on a daily basis. As this is equally necessary to both staff and students, there can be no real hierarchy between them. There are, of course, differences between staff and students in their responsibilities and experience; but in all that is most important in education the staff and students are really in the same boat. Staff members may know more about academic subjects, or gardening, or administration and therefore have a certain authority in those areas, but these are not the central concerns of education. In the central concerns of education, which is to do with inner liberation, both the students and the teachers are learners and therefore equal, and this is untouched by functional authority.

Therefore I say, authority has its place as knowledge, but there is no spiritual authority under any circumstances… That is, authority destroys freedom, but the authority of a doctor, mathematics teacher and how he teaches, that doesn't destroy freedom. (Krishnamurti 1975)
In thus helping the student towards freedom, the educator is changing his own values also; he too is beginning to be rid of the "me" and the "mine", he too is flowering in love and goodness. This process of mutual education creates an altogether different relationship between the teacher and the student. (Krishnamurti 1953c) (Chapter 6)
JidduKrishnamurti felt that the over-riding quality of an educator should be religiosity.

Because he is devoted solely to the freedom and integration of the individual, the right kind of educator is deeply and truly religious. He does not belong to any sect, to any organised religion; is free of beliefs and rituals… (Krishnamurti 1953c) (Chapter 6)
Because the educator is religious; he is concerned first with 'being', and then right 'doing' will follow from it. Krishnamurti describes this relationship between 'being' and 'doing' frequently, but perhaps nowhere more succinctly than in one of his talks in Bombay,

… it is not 'doing is being' but 'being is doing' (Krishnamurti 1956).
For JidduKrishnamurti, 'doing' derived from 'being' rather than 'being' deriving from 'doing' – the reverse of convention. Much more needs to be said than this paper permits about the consequences of reversing the roles of 'being' and 'doing', or even worse, of confusing them. Note the modern convention of a question like, "Who are you?" (a question about being) which is answered by, "I'm a lawyer, engineer, etc." (a statement about doing). Suffice it to say that this reversal or confusion usually leads to a highly developed 'doing' (which is easier to accomplish) with impoverished 'being,' and Krishnamurti felt that dysfunction was the usual consequence of such imbalance.

When discussing the selection process for students and staff at his English educational centre, Krishnamurti always stressed the importance of the candidate's 'being' – their deepest sensitivities, their goodness and intelligence (in his definitions of those words which had nothing to do with conventional morality or IQ), the depth of their questions about themselves and the world. Although he wanted both staff and students to be intellectually sound, he never stressed academic prowess, cultural abilities, or capacities as being more important than the willingness and ability to lead what he called a religious life'. In one memorable discussion,

JidduKrishnamurti questioned the staff about all the qualities they looked for in prospective students (as it was all the staff together who chose new students and staff members). Krishnamurti then described himself as a boy. He said he had been vague, shy, dreamy and bad at all academics, but sensitive, full of wonder, trusting, and affectionate; and Krishnamurti asked if, according to the criteria the staff had just enunciated, they would have accepted him as a child. Again, a painful silence.

Our description of the students we were seeking for a Krishnamurti school seemed not to include the young Krishnamurti. How was this possible? It was because we as staff members were thinking too conventionally and traditionally, we were more interested in 'doing' than 'being', more interested in the measurable than the immeasurable; we were choosing what was most like us, we were again choosing Barabbas.

The consequences of Krishnamurti's view of humanity for education

Earlier on in this paper, I tried to give a summary of JidduKrishnamurti's view of the nature of a human being. It now remains to say just a few things about the relation of this view to what he felt were the consequences for education. I will concentrate on only two elements as they most directly support my contention that for Krishnamurti education was a religious activity. These two elements are: 1.) the distinction between mind and brain, and 2.) people need to be revealed to themselves not shaped by others.

Krishnamurti's view that a human has both a brain and a mind puts him at odds with most modern perspectives and most learning theory. Although this article is too short to do justice to this topic, we can simplify the difference as follows: the brain is the material centre of the nervous system and the organ of cognition. It is therefore responsible for co-ordination of the senses, memory, rationality, intellectual knowledge, etc. The mind, which is not material, is related to insight (non-visual perception), compassion, and the profound intelligence that JidduKrishnamurti held as the real goal of life and therefore of education. Obviously one needs a brain that functions well (like one needs a heart or a liver that functions well) but the real source of acting rightly, of goodness, and of a religious life is the mind. In this unequal relationship between the two, a good brain can not ameliorate a mind, but a good mind does ameliorate the brain. The brain has an important role to play with the mind, and that role is freeing itself from its conditioning and from activities that inhibit the mind's healthy functioning (i.e. hate, fear, pride, etc.); and helping the brain do this is one of the main functions of education (not accumulating knowledge).

The real issue is the quality of our mind: not its knowledge but the depth of the mind that meets knowledge. Mind is infinite, is the nature of the universe which has its own order, has its own immense energy. It is everlastingly free. The brain, as it is now, is the slave of knowledge and so is limited, finite, fragmentary. When the brain frees itself from its conditioning, then the brain is

infinite, then only there is no division between the mind and the brain. Education then is freedom from conditioning, from its vast accumulated knowledge as tradition. This does not deny the academic disciplines which have their own proper place in life. (Krishnamurti 1985) (Letter dated 1st October 1982)

Contrary to the perspective that has shaped much in conventional education, JidduKrishnamurti felt that each person needs to explore themselves and reveal themselves to themselves rather than be shaped into something by others. This is not a new perspective, and again has links to the educational theories of Rousseau, Pestalozzi, Fröbel, and Montessori.

The function of education, then, is to help you from childhood not to imitate anybody, but to be yourself all the time. So freedom lies…in understanding what you are from moment to moment. You see, you are not [normally] educated for this; your education encourages you to become something or other… (Krishnamurti 1964) (Chapter 3)

To understand life is to understand ourselves, and that is both the beginning and the end of education. (Krishnamurti 1953c) (Chapter 1)

Krishnamurti felt that not only was a person's nature and deepest aspects to be uncovered, but each person also has a unique vocation that needs to be discovered; what he/she really loves to do has to be found and pursued, and to do anything else is a deprivation of the worst kind, especially if such deprivation is in order to pursue success or other such cultural aspirations. The discovery of the natural vocation for an individual student and the student's understanding what he really loves to do may not fit into the plans of the parents or society, but it is an important part of understanding oneself and, consequently, of education.

Modern education is making us into thoughtless entities; it does very little towards helping us to find our individual vocation. (Krishnamurti 1964) (Chapter 3)

To find out what you really love to do is one of the most difficult things. That is part of education. (Krishnamurti 1974) (Part 1, Chapter 8)

Right education is to help you to find out for yourself what you really, with all your heart, love to do. It does not matter what it is, whether it is to cook, or to be a gardener, but is something in which you have put your mind, your heart. (Krishnamurti 1974) (Part 1, Chapter 8)

I realize I have not said anything about how JidduKrishnamurti felt that any of the above could be put into practice. The theme of this paper is too small to attempt that, and yet still I feel I have bitten off more than I can chew – or perhaps it is just more than I could present in a digestible form. I have wanted to show that for Krishnamurti education was first and foremost a religious activity. In 1929 he stated what he felt was the central intention in his life,

I want to do a certain thing in the world and I am going to do it with unwavering concentration. I am concerning myself with only one essential thing; to set man free. (Krishnamurti 1929)

For this Krishnamurti started schools, and for this reason only. We read the words of the young seventeen year old Krishnamurti who wrote,

If the unity of life and the oneness of its purpose could be clearly taught to the young in schools, how much brighter would be our hopes for the future! (Krishnamurti 1912) (Foreword)
Forty one years later he wrote,

If one becomes aware that there can be peace and harmony for man only through right education, then one will naturally give one's whole life and interest to it. (Krishnamurti 1953c) (Chapter 6)

Unit - IV: Educational Thinkers (Western) (14 hours)

Analytical study of thoughts of the Western thinkers in relation to their formulation about aims of education, curriculum, teaching methodology and teacher:

Rousseau
John Dewey
Pestolozzi
Frobel

RousseauIntroduction

Rousseau is one of the famous Western philosophers of the eighteenth century. During the seventeenth and the eighteenth centuries reason ruled as a god , and people like Voltaire revolted against it. Rousseau also led the revolt against reason and he made nature the sole authority over human affairs.
Rousseau saw a great divide between the society and the nature and so led the second revolt which was called as the naturalistic movement. He had a great emotion and sympathy for the common man. (Khalid, 1998).
Jean- Jacques Rousseau was born on 28 June 1712 in the Geneva, Switzerland in the house of a poor watch maker. His father could not afford a proper education for him so he received informal education from his father. His mother died shortly after birth. From the age of twelve to twenty four he travelled to many places and developed sympathy for poor people. In 1735 he was given the job of tutoring the two sons of M. De Malby. From here his interest in education began and he prepared his first treatise "Project for the education of M. De Sainte-Maria".
In 1756 he was provided a hermitage by a lady on her estate. Here he studied the letters

she wrote to her nine year old son and he advised her about how it was not natural for a child of this age to be educated. He wrote "Emile" in 1762 in which he used an the imaginary description of the education of a boy named Emile and described how the education should be imparted starting from infancy up to manhood. He died on 17 July 1778.(Khalid, 1998).

Rousseau's main subjects of interest were philosophy, music, education and literature.

Some of the notable ideas given by him include: general will, amour- proper, natural goodness of humanity. Rousseau was influenced by Hobbes, Locke, Diderot, Montesquieu and Machiavelli. He in turn influenced the works of Kant, Fichte, Hegel, Goethe, Romanticism, Paine, Comte, Bolivar and Engels. (Wikipedia the free encyclopedia).

Aims of education As mentioned earlier Rousseau was the leader of the naturalistic movement. According to him "man was born free and good and could remain that way in some ideal state of nature ". (Noddings, 1995, p.15).His main idea was that human being is created good by God and must make all efforts to remain that way. Rousseau had an anti social attitude because he thought that society was responsible for corrupting the nature of man. According to Noddings (1995, p. 15): "having to live with other people and accommodate to their needs begins a process of corruptionin man that reaches its peak in the society characteristic of Rousseau's time." Thus Rousseau wanted to work towards a society in which human being would remain in his/her natural state but still be able to mingle within the society without corrupting this natural state. As stated by

Noddings (1995, p. 15): "his was an attempt to balance the needs of conjoint living with those of self actualization"

The theory of natural man given by him brought him towards making such a plan for education in which a person will be able to fulfil both the needs of living in a society and remain in a natural state. Rousseau believed that education was not merely imparting information upon the learner. Education also takes place from the environment around him/her. Khalid (1998,p.93) states: "Rousseau says that education comes to us from nature, from man and from things. Here he is regarding nature as equivalent of endowment." Rousseau believed the education from nature to be of the utmost importance followed by education from man and things. This is because he considers emotions to be more trustworthy then experiences. (Khalid, 1998).

So the aims of education given by Rousseau can be summarized as follows:

Development of the abilities of the learner : the abilities given to a child by God must be developed in a way so that they are not damaged in any way and the child remains natural. Liberty and happiness of child: the child receiving the education must not feel over burdened by the knowledge imparted on him/her. The child must feel free and happy during the course of education. Preparation for life and participation in it: during education a child must be prepared to face all the problems and difficulties that life challenge him with. He should be able to make his own decisions and not rely on others judgments. He must also contribute to life. (Khalid, 1998).Rousseau has provided very detailed information about his aims of education but it is notable that he does not have the same aims for females. For females the aims of education differ drastically. (Noddings, 1995).In the words of Rousseau as cited in Noddings (1995, p.18): "The entire education of woman must be relative to men. To please them, to be useful to them, to be

loved and honouredby them, to rear them when they are young, to care for them when they are grown up, to counsel and console, to make their lives pleasant and charming, these are the duties of women at all times, and they should be taught them in their child hood. To the extent that we refuse to go back to this principle, we will stray from our goal and all percepts women are given will not result in their happiness or our own."So according to Rousseau woman is only to please men and should be given an education that takes them towards this goal.

Syllabus of Rousseau

Rousseau believed that the aims of education differ at different stages of a man's life. So he has provided a comprehensive syllabus for each stage of life starting from infancy to adulthood. Rousseau wrote his book "Emile" to show people how children should be brought up. In Emile Rousseau divides the development of child in five stages and gives the complete course of education for males. For females as mentioned earlier a very different syllabus is provided in his book where Sophie is the imaginary character to be educated. (jean- Jacques rousseau on nature, wholeness and education, n.d.).

Rousseau believed that children must be taught naturally but they must be taken care of by the parents and protected from unnatural prejudices, authority and force which surrounds them. (Lobo, 1974). Education- as mentioned earlier occurs from three sources: nature, man and things. According to Lobo (1974, p. 19): "natural means developing ones faculties and powers. Human(man) means making use of these natural faculties and powers. Things acquired by dealing with things(experience)". The five stages of education as given by Lobo (1974, p.71) are:

1. Infancy : 0 – 6 years
2. Boyhood : 7 – 9 years
3. Preadolescence : 10 – 12 years
4. Adolescence : 13 – 19 years
5. Adulthood : 20 years and onwards

First stage: Infancy (0 – 6 years)

In the first stage of their life children are taught the use of their senses with experience. Education must be according to the nature of the child. No subjects must be taught. There must be no formal tutor and education must be the responsibility of the parents. At this stage child is allowed co-education with girl cousins. The parents must make sure that the child develops physically strong and healthy and that his senses are well used. The aim of education at this stage according to Khalid (1998, p. 98) is: "…to develop a well regulated sense of liberty and happiness".

At this stage the child learns feelings such as pleasure or pain, fear of the unknown and courage in facing new situations. Memory and imagination begin at this stage the child should be allowed to touch as it gives him the idea of space and distance. Rousseau says that tears are the basis of relationships. According to Rousseau as cited in Lobo (1974, p.72): "the first tears of the infant

are prayers but if one does not watch out, they will become commands." The child is not aware of moralities and must be taught these by the adults. Precocity (premature culture) is considered bad by Rousseau. He says that the time table of nature must be followed. The maxims given by Rousseau are given in Lobo (1974, pp. 72-73) as:
Let the child employ all its faculties, especially movement
Supply physical wants
Help in real needs not imaginary needs
Learn from child's speech and signs what his needs are.

Second stage: Boyhood (7 – 9 years)

According to Khalid(1998, p. 98) : "the aim of education at this stage is to perfect the organs and the senses that are instruments of knowledge and the development of his natural powers before knowledge is actually received." The senses of the child must be developed with gymnastics and games and other types of exercises. The development of senses is important because these help in the proper development of reasoning and judgment. Rousseau does not opt for books at this stage of a child's life. There should also be no verbal lessons or books for the child at this stage. According to Rousseau as cited in Khalid(1998, p.99): "reading is the curse of childhood." Also "childhood is the sleep of reason." (Khalid, 1998).
At this stage child must allowed to enjoy his life. The child at this point in life becomes conscious of his existence. He must be taught to live his life in accordance with the nature. This is because "man who does not live according to nature, but fashions himself through social institutions suffers misery." (Lobo, 1974, p. 74).
Rousseau proposes the following methods for education at this stage:
· Let him be dependent on things not on persons
· Learn the hard way – through experience
· Give help only when needed
· Do not over tax the child's capacity
· The best value is well regulated liberty
· No verbal lessons
· No punishments
· Don't save time but lose it – the most useful rule of education at this stage
The various modes of education that must begin at this stage are:
Moral education: main thing to be taught is "never do harm to anyone"
Intellectual education: learn first by senses, then by ideas then comes judgment. One language must be learned at a time.
Motivation : child must feel the importance of learning.
Discipline : from nature not from things.
The following key concepts must also be learned:
Idea of property: what is ours
Idea of contract: respect others to be respected by others
Idea of justice: what others owe to us

Telling the truth:
Prayer: personal and not just a ritual
Charity: taught as an attitude and value
Morality: learned from the adults by watching them
(Lobo, 1974)

Third stage : preadolescence (10 – 12 years)

This stage is characterized by utility and the training of the intellect. At this stage the child is ready to receive knowledge. The aim of education at this stage given by Rousseau is "to gain useful knowledge which would satisfy his wants and desires and stand the test of practical needs." (Khalid, 1998. P.100). At this stage the child is now ready to receive knowledge of various subjects. So the content of his education must include:
Geography: they must be taught about ones own region using ones own instruments. Here accuracy is not important as much as self confidence.
Science: this should be taught using practical methods in laboratories and workshops and not from books.
Social relations: he must be taught the importance of companionship.
Manual work: this will prepare him for any emergency that might arise.
The methods implied at this stage are:
Primary education: this must be purely negative. Don't teach them virtue but train the heart against vice and mind against error.
Positive moral education: this can only be achieved by giving example of ones own conduct. A child learns morals by observing his adults.

Fourth stage: Adolescence (13 – 19 years)

This is the stage of morality and of moral aesthetic and social education. The aim of education at this stage according to Rousseau is "…education should shape the heart. It should make Emile loving and tender hearted. He must learn to live for others and to live together in social relationships." (Khalid, 1998.p.101). Child must also now be taught about God. At this stage the emotions and sentiments of a man develop. The man is according to Rousseau as cited in Lobo (1974, p.79): "like a lion in his fever - does not want to be governed." The methods and content at this stage of life should be:
· The passions: these must neither be destroyed nor prevented.
· The primordial passions: this is the love of oneself which should be in balance – not too much and not too little.
· Sex: this was at fist indeterminate but now seeks an objects.
· Friendship: is for all and must come before love for one person.

· The natural law: this is based not on reason but on love of men derived from self love.
· Study of society: the study of lives of great men show us the role of good will as well as of evil intentions. It also teaches that wars are manmade and not natural.
· Morality: this is now based on self love according to Rousseau "virtue" is self love extended to others.
· Religion: this should again be taught from nature and not from books.
· Sex education: this comes after religious education, must be given by a person whom the youth can trust, questions must be answered not aroused.
(Lobo,1974)

Fifth stage: Adulthood (20 and above)

At this stage the person enters the society the content and methods of education at this stage are as follows:
Aesthetic sense: this is developed by visiting various places such as Paris, visiting theatres, learning to look for happiness instead of wealth and study good taste and not morals.
Moral sense: a virtuous man is one who controls himself, follows his reason and his conscience. He is his own master and commands his own heart.
Home and marriage: man should make his home in the place of his birth.
(Lobo, 1974)

Conclusion:
In conclusion it can be said that Rousseau was a great philosopher of his time and his stages of life are still applicable in our present day situation. Although he was biased where the education of a female is concerned but the detailed syllabus provided for the education of males is very comprehensive and if followed can lead to a man who is self controlled and can make hai own decisions in life.

John Dewey, American Pragmatist
When John Dewey celebrated his ninetieth birthday on October 20, 1949, fifteen hundred guests crowded a huge ballroom in New York City to do him honor. Messages of congratulation poured in from President Harry Truman, Prime Minister Atlee, Pandit Nehru, and from a hundred United States colleges and universities. A dozen foreign nations had planned celebrations. Friends were raising $90,000 for an educational Dewey Birthday Fund. And all because in the eyes of millions of admirers no one in the history of America has so profoundly and in so many areas of human endeavor influenced and determined his own age as . . . "America's dean of Philosophers: John Dewey."

In striking contrast with this adulation, American Catholics regard Dewey as a modern prophet of error whose philosophy of education is "socialistic naturalism without God, without Christ, without religion, without immortality. Every single strain in it, from the influence of Hegel to the inspiration of Darwin, finds its place within his system."

DEWEY'S IMPORTANCE IN AMERICA EDUCATION

All are agreed, however, that no philosopher in modern times, certainly no American, has made a deeper and more effective impression on educational theory and practice in the United States. The extent of his literary productivity alone suggests something of what this means. To commemorate "Dewey's Eighth Decade" in 1939, Columbia University issued a bibliography of his published writing.[One hundred fifty-eight pages of this volume contain the titles of his own books and articles; another sixty pages list the names of published commentaries on Dewey, mostly doctorate theses. It is worth noting that the title of his first published article, in 1882, was "The Metaphysical Assumptions of Materialism," and of his first book in 1884, The Psychology of Kant. As of 1949, he had to his credit forty-five volumes, originally in English, but eventually in a score of languages, including Russian and Japanese, and over three hundred full-length articles, dealing almost exclusively with educational theory.

However, the real test of Dewey's influence is the practical effect which his ideas have had on the people for whom he wrote. And here, "A host of disciples look upon him as the great intellectual liberator of our times." Other thousands consider him as "a thinker whose vital influence upon the reform of school methods is greater than that of any of his contemporaries." His birthday encomium, published in 1949, summarizes the depth of his influence:

John Dewey is at once the foremost philosopher in the history of America, its greatest educational thinker and many so judge our most distinguished citizen. His influence on education is unequaled both in extent and in depth. Each public school child in our country lives a happier and a better life because of Dewey, and the same holds for most pupils of non-public schools. And not simply in this country; in most other countries of the world is his influence felt.

Pestklozzi had prepared the ground. Froebel and Herbart had helped. Horace Mann, Henry Barnard, . . . and others had carried America along the Pestalozzi road. But one thing was lacking. No one of these men, nor all combined, had given an adequate theory for a thorough-going democratic, science-respecting education. This Professor Dewey has done.

It is no exaggeration to say that Dewey has affected the pedagogy of "most other countries of the world," besides America. In England, Professor Findlay of Manchester championed the pedagogical theories of Dewey and established a school modeled on his plan. It is well known that the renowned German educator, Kerschensteiner, had come largely under the influence of Dewey. He was the founder of the famous Arbeits-schule of Munich, which closely approached Dewey's ideal of the "active school." In 1919, Professor Dewey was invited to Japan as guest lecturer at the Tokyo Imperial University. Then followed two years' teaching at the National Universities of Peking and Nanking in China. Trips to Turkey in 1924 and Mexico in 1926, on special request from these governments, further extended his theories of "democratic education." For at least ten years, from 1923 to 1933, Dewey is conceded to have had a large part in

organizing the Soviet educational system. Lunarcharsky, the Russian Minister of Education, was a personal friend and ardent admirer of John Dewey. In 1928, he was asked by the Soviet Government to visit Russia, study the educational needs in that country and make recommendations for improvement. Returning to the United States, he wrote a series of articles on Russia that were very sympathetic in tone with the U.S.S.R., which led to his being described as a "Bolshevik" and a "Red" in the conservative press.

Dewey's most lasting influence, however, was exercised personally and directly as professor of philosophy at Columbia University since 1904. Teachers College of Columbia, with which Dewey was associated, is the largest in the country. Of the 23,631 students at the University in 1950, over a third 9,032, were enrolled in Teachers College, training twice as many teachers and educational administrators as any other college in America. It was during his early connection with Columbia that Dewey helped to organize the American Association of University Professors and served as its first president.

DEWEY'S IDEAS ON GOD AND RELIGION

We may now ask ourselves: What sort of ideas and principles did John Dewey propound to give him what is generally recognized as "world leadership in educational theory"?

It is unfortunate that so many studies on Dewey have concentrated on his pedagogy, ignoring the fact that he was primarily a philosopher whose interest in education, on his own confession, was a matter of practical efficiency. He was simply using education as the most effective instrument for putting his principles of philosophy into living practice.

On the subject of God in its metaphysical aspects, Dewey's first publications were plain expressions of orthodox Hegelianism. In 1884, he wrote:

God, as the perfect Personality or Will is the only Reality, and the source of all activity. It is therefore the source of all activity of the individual personality. The Perfect Will is the motive, source, and realization of the life of the individual. He (the individual) has renounced his own particular life as an unreality; he has asserted that the sole reality is the Universal Will, and in that reality all his actions take place.

Writing in 1930, he stated: "I have drifted away from Hegelianism.... Nevertheless, I should never think of ignoring, much less denying, that acquaintance with Hegel has left a permanent deposit in my thinking."

The nature of this Hegelian deposit may be judged by the definitive statement of his "theology" given in a series of lectures at Yale University in 1934. "God," he defines, "denotes the unity of all ideal ends arousing us to desire and actions." He admits:

The idea that "God" represents a unification of ideal values that is essentially imaginative in origin when the imagination supervenes in conduct, is attended with verbal difficulties, owing to our frequent use of the word "imagination" to denote fantasy and doubtful reality. But the reality of ideal ends as ideals is vouched for by their undeniable power in action. An idea is not an illusion because imagination is the organ through which it is apprehended.

In other words, God does not exist except as the projection by our imagination of those non-objective ideals which guide our human conduct. While the idea of God is not real, therefore, since it is created by the fantasy, it is not illusory because it serves the purpose of idealizing our hopes and desires.

Consistent with this doctrine of atheism, Dewey inveighs against the idea of religion — any religion — which pretends to represent man's relations with an objective and personal Deity. He introduces a distinction between religion and religious which has since become famous. Projected ideals of conduct are religious, but there is no warrant for religion, since there is no extra-mental God for religion to worship. "Any activity," according to him, "pursued in behalf of an ideal end against obstacles and in spite of threats of personal loss because of conviction of its general and enduring value is religious in quality."[12] And then he launches into as militant an attack on established religions as may be found anywhere in the writings of Lenin or Marx:

If I have said anything about religions and religion that seems harsh, I have said those things because of a firm belief that the claim on the part of religions to possess a monopoly of ideals and of the supernatural means by which alone, it is alleged, they can be furthered, stands in the way of the realization of distinctively religious values inherent in natural experience. For that reason, if for no other, I should be sorry if any were misled by the frequency with which I have employed the adjective "religious" to conceive of what I have said as a disguised apology for what have passed as religions. The opposition between religious values as I conceive them and religions is not to be abridged. Just because the release of these values is so important, their identification with the creeds and cults of religions must be dissolved.

ANTI-SUPERNATURALISM

Dewey is not satisfied with denying the foundations of religion by substituting his conceptual ideals for a personal God. He goes out of his way to oppose what he calls the suicide of reason and human effort which consists in revelation and the belief in divine grace to supplement the weakness of man. Man is quite capable of himself to attain all the knowledge that he needs and achieve all the ambitions he desires. If there must be faith, let it be men's faith in each other and in their mutual co-operation. "Faith," he says, "in the continued disclosing of truth through directed co-operation of human endeavor is more religious in quality than is any faith in a completed revelation." A cardinal principle of Dewey's naturalism is the rejection of any kind of fixed doctrine or creed, based on revelation, and therefore stultifying the progress of human science which must be independent of such chains.

Some fixed doctrinal apparatus is necessary for a religion. But faith in the possibilities of continued and rigorous inquiry does not limit access to truth to any channel or scheme of things. It does not say first that truth is universal and then add that there is but one road to it. It does not depend for assurance upon subjection to any dogma or item of doctrine. It trusts that the natural interactions between man and his environment will breed more intelligence and generate more knowledge, provided the scientific methods that define intelligence in operation are pushed further into the mysteries of the world.

Here we have a definition of faith, based not on the authority of God's revelation but on the autonomy of man's own reason. "There is such a thing," says Dewey, "as faith in intelligence becoming religious in quality — a fact that perhaps explains the efforts of some religionists to disparage the possibilities of intelligence as a force. They properly feel such a faith to be a dangerous rival."

So much for knowledge. The same holds true in action and achievement. "Men have never fully used the powers they possess to advance the good in life, because they have waited upon some power external to themselves and to nature to do the work they are responsible for doing. Dependence upon an external power is the counterpart of surrender of human endeavor."Dewey sees only one objection to this deification of man's ability to perfect himself. He answers the objection:

Nor is emphasis on exercising our own powers for good an egotistical or a sentimentally optimistic course. It is not the first, for it does not isolate man, either individually or collectively, from nature. It is not the second, because it makes no assumption beyond that of the need and responsibility for human endeavor.... It involves no expectation of a millennium of good.

Consequently, it is not man alone but man in union with nature who achieves whatever may be the goal of his existence; and the goal in question is quite attainable, since it modestly ambitions nothing beyond the natural and temporal goods of earth.

BACKGROUND AND DEVELOPMENT OF DEWEY'S PHILOSOPHY

In 1930, Dewey contributed an autobiographical chapter to a volume on Contemporary American Philosophy, which was later translated into Italian. "This fragment of autobiography chronicles Dewey's formative experiences in the study of philosophy. It is perhaps the most succinct and revealing statement of his intellectual development yet to appear." It is also the best key that we have to understanding some of Dewey's otherwise notorious obscurity of thought.

There is first of all his own confession to what others have called "inconsistency" and "self-contradiction." On one page he will defend one position, and three pages later the very opposite. And between one year and another, the change may be so radical you wonder if the same author

could possibly have written both statements. Dewey explains himself: "I envy those who can write their intellectual biography in a unified pattern.... By contrast I seem to be unstable, chameleon-like, yielding one after another to many diverse and even incompatible influences; struggling to assimilate something from each." The result is a mass of incompatibilities that frequently defy analysis and still more classification. A Catholic educator who recently finished a doctorate thesis on Dewey's philosophy remarked that his work was "extremely difficult, in view of the fact that Dewey repeatedly contradicts himself."

Another point which Dewey stresses is the motive which led him to identify the scientific method and the principles of morality, and identification which plays such a large part in his pedagogical theories.

As my study and thinking progressed, I became more and more troubled by the intellectual scandal that seemed to be involved in the current (and traditional) dualism in logical standpoint and method between something called "science" on the one hand and something called "morals" on the other. I have long felt that the construction of a logic, that is, a method of effective inquiry, which would apply without abrupt breach of continuity to the fields designated by both of these words, is at once our needed theoretical solvent and the supply of our greatest practical want. This belief has had much more to do with the development of what I termed, for lack of a better word, "instrumentalism," than have most of the reasons that have been assigned.

Dewey then traces the genesis of his principles of psychology to William James, the Harvard Professor of Psychology and founder of American pragmatism. Previously he had said that "upon the whole, the forces that have influenced me have come from persons and from situations more than from books." But now he admits that "the great exception to what was said about no very fundamental vital influence issuing from books . . . concerns the influence of William James. As far as I can discover one specifiable philosophic factor which entered into my thinking so as to give it a new direction and quality, it is this one."

There are two strains in James' psychology which Dewey recognizes and on which he claims to have built his own concepts. The first was James' functionalism as against the traditional concept of substantial personality. So complete was Dewey's conversion to the functional theory, that he accuses James of faint-heartedness. James had dispensed with the Pure Ego in thought; Dewey believed he should also dispense with the Pure Mover in conduct. James invented the theory of "a stream of consciousness" which needs no substance in and from which to act; Dewey went beyond James, declaring, "If the stream of thought can run itself in one case, the stream of conduct may administer itself in the other."He would have nothing to do with James' fiat; not even the mildest kind of determinism may be allowed. "The individual and his actions," according to Dewey, "are one. There are concrete attitudes, habits, desires, ideas, and ignorance; but there is no ego behind these states. There is no call to recede into the ego to explain will, any more than to explain consciousness."One of the clearest statements of Dewey's functionalism was written a year before the autobiography where he says: "The distinction between physical,

psycho-physical and mental is (only) one of increasing complexity and intimacy of interaction among natural events. The idea that matter, life and mind represent separate kinds of Being is a doctrine that springs, as so many philosophic errors have sprung, from a substantiation of eventual functions." Mind, will, and matter are therefore only different types of interaction, not different types of being; there is only functional not entitative distinction in reality.

The second strain in James which Dewey adopted was "a return to the earlier biological conception of the psyche." True, some of the ancients also conceived of mind as an organic function of the brain, but the modern return to the ancients was "possessed of a new force and value due to the immense progress made by biology since the time of Aristotle. I doubt if we have as yet begun to realize all that is due to William James for the introduction and use of this idea (which) . . . worked its way more and more into all my ideas and acted as a ferment to transform old beliefs."

The final statement which Dewey makes about himself in the autobiography gives us a clue to what many have called "iconoclasm," which is impatient to the point of hatred with the accumulate wisdom of the past:

I think it shows a deplorable deadness of imagination to suppose that philosophy will indefinitely revolve within the scope of the problems and systems that two thousand years of European history have bequeathed to us. Seen in the long perspective of the future, the whole of western European history is a provincial episode. I do not expect to see in my day a genuine, as distinct from a forced and artificial, integration of thought. But a mind that is not too egotistically impatient can have faith that this unification will issue in its season. Meantime, a chief task of those who call themselves philosophers is to help get rid of the useless lumber that blocks our highways of thought, and strive to make straight and open the paths that lead to the future.

The last sentence ends on a personal note and epitomizes Dewey's lifetime of fruitless effort to discover the truth: "Forty years (his own) spent in wandering in a wilderness like that of the present is not a sad fate — unless one attempts to make himself believe that the wilderness is after all itself the promised land."

PSYCHOLOGY AND INSTRUMENTALISM

Man, according to Dewey, possesses no soul or mind in the traditional sense of these terms. The doctrine of organic de-development has eliminated the dualism of soul and body. A spiritual vital principle is rejected because "the independently existing soul restricts and degrades individuality, making of it a separate thing outside of the full flow of things, alien to things experienced and consequently in either mechanical or miraculous relations to them."

Although the mind is not spiritual, it can still acquire knowledge in Dewey's hypothesis through what he calls the medium of experience. There are no objective norms of truth or morality

because "human experience consciously guided by ideas, evolves its own standards and measures, and each new experience constructed by their means is an opportunity for new ideas and ideals."

The specific instrument by which ideals are to be discovered and the court of last appeal in their prosecution is the scientific method. Dewey recognizes three names by which this theory of scientism may be denominated. Viewed in terms of the specific end or goal of human knowledge, whether this-worldly human utility or divine and extra-mundane, it is pragmatism; viewed in terms of the method by which knowledge is gained, whether by deduction from fixed principles or by experimentation through the scientific method, it is experimentalism; and viewed in terms of the immediate function which thought is to serve, whether to acquire knowledge of truths and finally of Truth or merely as an instrument to "more vital living," it is instrumentalism. His own definition of scientism is unmistakable:

It (the scientific method) breaks away completely with that part of the philosophical tradition which holds that concern with superior reality determines the work to be done by philosophical inquiry. It affirms that the purpose and business of philosophy is wholly (concerned) with . . . search for the ends and values that give direction to our collective human activities. It holds that not grasp of eternal and universal Reality but use of the methods and conclusions of our best knowledge, that called scientific, provides the means for conducting this search.... The movement is called, in its various aspects, by the names of pragmatism, experimentalism, instrumentalism. Not these names are important but the ideas that are held regarding the distinctive aim and business of philosophic inquiry and of how it shall be accomplished.

DEWEY'S CREDO OF NATURALISM

The basis of Dewey's philosophy of life is an unmitigated naturalism. In 1925 when Santayana, himself a confirmed materialist, accused Dewey of cowardice in his profession of naturalism, Dewey defended himself in a spirited article entitled "Half-Hearted Naturalism," in which he clarified his position to make it very certain that he wanted to be considered "a whole-hearted naturalist." While this should be evident from the reading of his numerous works, it is significant that he went out of his way to remove every doubt on this point. He calls himself an empirical naturalist who allows no break or discontinuity between nature and social man. There is no "gulf between nature and man — social or conventional man." Any other concept is "reminiscent of supernatural beliefs.... To me human affairs, associative and personal, are projections, continuations, complications of the nature which exists in the physical and pre-human world. There is no gulf, no two spheres of existence, no `bifurcations.'" There is only a "thorough-going continuity" between man and nature, a fact which is demonstrated by the progress of physical science.

Finally in 1933, as though to remove any lingering doubt about his philosophical convictions, John Dewey along with a dozen leading Americans signed and published the so-called

"Humanist Manifesto," which contains in nucleo the basic principles for which he stands. In the original document there were fifteen articles to this "Credo in Naturalism," of which the following are the most representative:

(1) Religious humanists regard the universe as self-existing and not created.

(2) Humanism believes that man is a part of nature and that he has emerged as the result of a continuous process.

(3) Holding an organic view of life, humanists find that the traditional dualism of mind and body must be rejected.

(4) Humanism asserts that the nature of the universe depicted by modern science makes unacceptable any supernatural or cosmic guarantees of human values.

(5) Religious humanism considers the complete realization of human personality to be the end of man's life and seeks its development and fulfillment in the here and now.

(6) In the place of the old attitudes involved in worship and prayer, the humanist finds his religious emotions expressed in the heightened sense of personal life and in a co-operative effort to promote social well-being.

(7) The humanists are firmly convinced that existing acquisitive and profit-motivated society has shown itself to be inadequate.... A socialized and co-operative economic order must be established.

(8) Though we consider the religious forms and ideas of our fathers on longer adequate, the quest for the good life is still the central task for mankind. Man is at last becoming aware that he alone is responsible for the realization of the world of his dreams, that he has within himself the power of its achievement.

In the opinion of his followers, John Dewey is "the foremost philosopher in the history of America" and "its greatest educational thinker." This is true, but only in the sense that Dewey is America's outstanding prophet of a new kingdom, in which the only god who is admitted is the subjective creation of Man.

Johann Heinrich Pestalozzi

Johann Heinrich Pestalozzi (January 12, 1746 – February 17, 1827) was a Swiss pedagogue and educational reformer who exemplified Romanticism in his approach.

He founded several educational institutions both in German- and French-speaking regions of Switzerland and wrote many works explaining his revolutionary modern principles of education. His motto "Learning by head, hand and heart" is still a key principle in successful 21st-century schools. Thanks to Pestalozzi, illiteracy in 18th-century Switzerland was overcome almost completely by 1830.

His theories laid the foundation of modern elementary education. He was director (from 1805) of an experimental institute established at Yverdon on his principle that choice of pedagogical method should be based on the individual's development and concrete experience. He opposed memorization learning and strict discipline, and pioneered in the use of tactile objects in the teaching of natural science. He also promoted broad liberal education followed by professional training for teachers.
1746-1827, Swiss educational reformer, b. Zurich. His theories laid the foundation of modern elementary education. He studied theology at the Univ. of Zurich but was forced to abandon his career because of his political activity on behalf of the Helvetic Society, a reformist Swiss political organization. From 1769 to 1798 he lived at his farm, "Neuhof,"near Zurich, where he conducted a school for poor children. He then directed a school at Burgdorf (1799-1804), and from 1805 until his retirement (1825) to Neuhof he was director of the experimental institute at Yverdon, which was established on Pestalozzian principles.
Pestalozzi's theory of education is based on the importance of a pedagogical method that corresponds to the natural order of individual development and of concrete experiences. To Pestalozzi the individuality of each child is paramount; it is something that has to be cultivated actively through education. He opposed the prevailing system of memorization learning and strict discipline and sought to replace it with a system based on love and an understanding of the child's world. His belief that education should be based on concrete experience led him to pioneer in the use of tactile objects, such as plants and mineral specimens, in the teaching of natural science to youngsters. Running through much of Pestalozzi's writing is the idea that education should be moral as well as intellectual.

Never losing his commitment to social reform, Pestalozzi often reiterated the belief that society could be changed by education. His theories also influenced the development of teacher-training methods. Although he respected the individuality of the teacher, Pestalozzi nevertheless felt that there was a unified science of education that could be learned and practiced. His belief that teacher training should consist of a broad liberal education followed by a period of research and professional training has been widely adopted throughout Europe and the United States.

XII. EDUCATION IN THE 19TH CENTURY

The foundations of modern education were established in the 19th century. Swiss educator Johann Heinrich Pestalozzi, inspired by the work of French philosopher Jean Jacques Rousseau, developed an educational method based on the natural world and the senses. Pestalozzi

established schools in Switzerland and Germany to educate children and train teachers. He affirmed that schools should resemble secure and loving homes.

Like Locke and Rousseau, Pestalozzi believed that thought began with sensation and that teaching should use the senses. Holding that children should study the objects in their natural environment, Pestalozzi developed a so-called "object lesson" that involved exercises in learning form, number, and language. Pupils determined and traced an object's form, counted objects, and named them. Students progressed from these lessons to exercises in drawing, writing, adding, subtracting, multiplying, dividing, and reading.

Pestalozzi employed the following principles in teaching: (1) begin with the concrete object before introducing abstract concepts; (2) begin with the immediate environment before dealing with what is distant and remote; (3) begin with easy exercises before introducing complex ones; and (4) always proceed gradually, cumulatively, and slowly. American educator Henry Barnard, the first U.S. Commissioner of Education, introduced Pestalozzi's ideas to the United States in the late 19th century. Barnard also worked for the establishment of free public high schools for students of all classes of American society.

German philosopher Johann Herbart emphasized moral education and designed a highly structured teaching technique. Maintaining that education's primary goal is moral development, Herbart claimed good character rested on knowledge while misconduct resulted from an inadequate education. Knowledge, he said, should create an "apperceptive mass"--a network of ideas--in a person's mind to which new ideas can be added. He wanted to include history, geography, and literature in the school curriculum as well as reading, writing, and arithmetic. Based on his work, Herbart's followers designed a five-step teaching method: (1) prepare the pupils to be ready for the new lesson, (2) present the new lesson, (3) associate the new lesson with ideas studied earlier, (4) use examples to illustrate the lesson's major points, and (5) test pupils to ensure they had learned the new lesson.

A. Kindergarten

German educator Friedrich Froebel created the earliest kindergarten, a form of preschool education that literally means "child's garden" in German. Froebel, who had an unhappy childhood, urged teachers to think back to their own childhoods to find insights they could use in their teaching. Froebel studied at Pestalozzi's institute in Yverdon, Switzerland, from 1808 to 1810. While agreeing with Pestalozzi's emphasis on the natural world, a kindly school atmosphere, and the object lesson, Froebel felt that Pestalozzi's method was not philosophical enough. Froebel believed that every child's inner self contained a spiritual essence -- a spark of divine energy -- that enabled a child to learn independently.

In 1837 Froebel opened a kindergarten in Blankenburg with a curriculum that featured songs, stories, games, gifts, and occupations. The songs and stories stimulated the imaginations of children and introduced them to folk heroes and cultural values. Games developed children's social and physical skills. By playing with each other, children learned to participate in a group. Froebel's gifts, including such objects as spheres, cubes, and cylinders, were designed to enable

the child to understand the concept that the object represented. Occupations consisted of materials children could use in building activities. For example, clay, sand, cardboard, and sticks could be used to build castles, cities, and mountains.

Immigrants from Germany brought the kindergarten concept to the United States, where it became part of the American school system. Margarethe Meyer Schurz opened a German-language kindergarten in Watertown, Wisconsin, in 1855. Elizabeth Peabody established an English-language kindergarten and a training school for kindergarten teachers in Boston, Massachusetts, in 1860. William Torrey Harris, superintendent of schools in St. Louis, Missouri, and later a U.S. commissioner of education, made the kindergarten part of the American public school system.

B. Social Darwinism

British sociologist Herbert Spencer strongly influenced education in the mid-19th century with social theories based on the theory of evolution developed by British naturalist Charles Darwin. Spencer revised Darwin's biological theory into social Darwinism, a body of ideas that applied the theory of evolution to society, politics, the economy, and education. Spencer maintained that in modern industrialized societies, as in earlier simpler societies, the "fittest" individuals of each generation survived because they were intelligent and adaptable. Competition caused the brightest and strongest individuals to climb to the top of the society. Urging unlimited competition, Spencer wanted government to restrict its activities to the bare minimum. He opposed public schools, claiming that they would create a monopoly for mediocrity by catering to students of low ability. He wanted private schools to compete against each other in trying to attract the brightest students and most capable teachers. Spencer's social Darwinism became very popular in the last half of the 19th century when industrialization was changing American and Western European societies.

Spencer believed that people in industrialized society needed scientific rather than classical education. Emphasizing education in practical skills, he advocated a curriculum featuring lessons in five basic human activities: (1) those needed for self-preservation such as health, diet, and exercise; (2) those needed to perform one's occupation so that a person can earn a living, including the basic skills of reading, writing, computation, and knowledge of the sciences; (3) those needed for parenting, to raise children properly; (4) those needed to participate in society and politics; and (5) those needed for leisure and recreation. Spencer's ideas on education were eagerly accepted in the United States. In 1918 the Cardinal Principles of Secondary Education, a report issued by the National Education Association, used Spencer's list of activities in its recommendations for American education.

Friedrich Froebel (Fröbel).

Best known for his work on kindergardens and play, Froebel has a lot to say for informal educators.

Friedrich Wilhelm August Froebel (Fröbel) (1782 – 1852). Friedrich Froebel, the German educationalist, is best known as the originator of the 'kindergarten system'. By all accounts he

had a difficult childhood. His mother died when he was a baby, and his father, a pastor, left him to his own devices. He grew up, it is said, with a love for nature and with a strong Christian faith and this was central to his thinking as an educationalist. He saw, and sought to encourage, unity in all things.
The purpose of education is to encourage and guide man as a conscious, thinking and perceiving being in such a way that he becomes a pure and perfect representation of that divine inner law through his own personal choice; education must show him the ways and meanings of attaining that goal. (Friedrich Froebel 1826 Die Nenschenerziehung, pp. 2). He came into teaching via a school run along Pestalozzian lines (and spent time at Yverdon). Friedrich Froebel's enduring significance was through his formulation of the 'kindergarten system' with its emphasis on play and its use of 'gifts' (play materials) and 'occupations (activities).

Friedrich Froebel believed that humans are essentially productive and creative – and fulfilment comes through developing these in harmony with God and the world. As a result, Froebel sought to encourage the creation of educational environments that involved practical work and the direct use of materials. Through engaging with the world, understanding unfolds. Hence the significance of play – it is both a creative activity and through it children become aware of their place in the world. He went on to develop special materials (such as shaped wooden bricks and balls – gifts), a series of recommended activities (occupations) and movement activities, and an linking set of theories. His original concern was the teaching of young children through educational games in the family. In the later years of his life this became linked with a demand for the provision of special centres for the care and development of children outside the home.

Froebel's abiding influence has come in part from the efforts of followers such as Bertha von Marenholtz-Bülow and the thinkers such as Diesterweg. We have seen the development of kindergartens, and the emergence of a Froebel movement. For informal educators, Friedrich Froebel's continuing relevance has lain in his concern for learning through activity, his interest in social learning and his emphasis on the 'unification 'of life.

The philosophy of education

Friedrich Froebel, 1782-1852 stresses the respect with which the individuality and ability of each child should be treated; the importance of creating a happy, harmonious environment in which he or she can grow; and the value of self-activity and play as a foundation on which the integrated development of the whole person can be built.

Friedrich Froebel was a German eductionalist. He was known best for the founding of kindergarten. Froebel was born in 1782 in the village of Oberwebach in Thuringia, Germany. His childhood was difficult because his mother died when he was a baby and his father abandoned

him. Froebel was given to his uncles care, who had a son that died at the age of ten. Froebel never showed much interest in school except for the field of mathmatics. Despite his many hardships, he had a strong christian faith and a love for nature. This is what was said to be central to his thinking as an educationalist. After several attempts of trying to attend the University, he was finally allowed. This is when he got into debt from tuition payments and was thrown in prison.

After Froebel's college years, he got a job in the forestry department at Bamberg. After this, he got a teaching job at Frankfort. His strong christian faith led him to the field of education. Froebel later married a woman who shared his beliefs and values. She died in 1836 and he remarried in 1851. Two months after Froebel's 70th birthday, he died.

Froebel first came into teaching through a school run along Pestalozzian lines. He believed that humans are essentially productive and creative, and that fulfillment comes through developing these in harmony with God and the world. His vision was to stimulate an appreciation and love for children, to provide a new but small world for children to play with their age group and experience their first gentle taste of independence. His kindergarten system consisted of games and songs, construction, and gifts and occupations. The play materials were what he called gifts and the activities were occupations. His system allowed children to compare, test, and explore. His philosophy also consisted of four basic components which were free self-activity, creativity, social participation, and motor expression. Froebel's kindergarten system grew internationally as an educational movement. It is a well established part of the American school system as well as many other parts of the world.

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Prepared By
Bhavana Sharma
Faculty of Education,
FIMT
New Delhi