

VOCATIONAL ASPECTS OF EDUCATION

Dr. Suman Rani



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Dr. Suman Rani (Associate Professor)

M.Ed., Ph.D. (Education), M.A. (Hindi, History), Faculty of Education,
Tantia University, Sri Ganganagar



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4378/4-B, Murarilal Street, Ansari Road, Daryaganj, New Delhi-110002.
Ph. No: +91-11-23281685, 41043100, Fax: +91-11-23270680
E-mail: academicuniversitypress@gmail.com

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Preface

Vocational aspects of education are essential in preparing individuals for the demands of the modern workforce, catering to diverse career pathways and industries. This form of education emphasizes practical skills and knowledge relevant to specific professions, providing learners with hands-on training and real-world experience. Unlike traditional academic education, vocational programmes focus on developing competencies directly applicable to the workplace, ensuring graduates are job-ready upon completion.

One significant aspect of vocational education is its adaptability to changing industry trends and technological advancements. Programmes are often designed in collaboration with employers and industry experts to address current skill gaps and emerging needs, ensuring graduates possess the relevant expertise sought after by employers.

Moreover, vocational education promotes inclusivity by catering to learners with diverse interests, abilities, and learning styles. It offers alternative pathways for those who may not thrive in traditional academic settings, providing opportunities for skill development and career advancement regardless of academic background.

The integration of academic and technical education is another key feature of vocational programmes, allowing students to acquire both theoretical knowledge and practical skills in their chosen field. This holistic approach fosters a deeper understanding of the subject matter and enhances graduates' ability to adapt to the demands of their profession.

Furthermore, vocational education emphasizes lifelong learning and professional development, recognizing the importance of staying updated with industry trends

and advancements. Through ongoing training and upskilling opportunities, individuals can remain competitive in the job market and pursue career advancement over time.

In addition to technical skills, vocational programmes also focus on soft skills such as communication, teamwork, and problem-solving, which are crucial for success in any profession. By nurturing these skills alongside technical competencies, vocational education prepares students for the complexities of the modern workplace and fosters their overall employability and career resilience.

Overall, vocational aspects of education play a vital role in equipping individuals with the practical skills, knowledge, and attitudes needed to succeed in their chosen careers and contribute meaningfully to society. By bridging the gap between education and employment, vocational programmes empower individuals to pursue fulfilling and rewarding careers while supporting economic growth and workforce development.

This comprehensive book navigates the intersection of education and employment, highlighting the transformative power of vocational training in shaping future pathways.

–Author

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Preparedness in Vocational Education and Technology

While there are still liberal-humanist influences on our education system, a fundamental orientation of state secondary education is directed towards an economic-rationalist agenda of vocationally orientated educational outcomes, which in theory target industry needs. Brady refers to this as, "... human-capital theory" (Brady and Kennedy, p67, 1999). Whether or not education based on this framework is a sound policy is in itself a topic for detailed analysis, but for the purpose of this dialogue I will not contest that vocational preparedness is a central preoccupation of the education system, and instead, focus on the way curriculum addresses this agenda.

In what ways do the possibilities of technology influence curriculum designed and developed to address vocational outcomes? Traditionally, major decisions related to education course content arrive top down from administration. They are then implemented by teachers who, frequently, spend all but a small portion of their day confined to a room in which students are rewarded for working quietly and independently. In contrast, success in business relies on collaboration and teamwork. The traditional education system is just beginning to transform into an environment that encourages collaboration as a focus in learning. Emerging technologies can catalyse this change and in fact encourage new systems of collaborative development.

This is a fundamental transformation, in which the archetypical education system, in both theory and practice, now has the tools, not just the incentive, to facilitate a transition from a focus on providing information, to a focus on

developing collaborative conceptual frameworks for educational activities. Educational practice should be located in a way that incorporates the demands of a vitally changing world, increasingly dominated by the technologies of electronic communication and collaborative networking.

CURRICULUM MODELS AND TECHNOLOGICAL RESOURCES

Kennedy states that, "...curriculum developers must reflect on actual practice to understand (appropriate) curriculum development practice". There is a debate about the cost/value relationship of technology implementation in secondary education. While much technology may provide long-term advantages in educational budgeting, provided resources are allocated towards efficient collaboration, this is, however, dependent on a curriculum focus which identifies the need for collaboration and supports its' implementation.

A cost factor is obsolescence which is an important consideration in technologically related curriculum especially, due both to the cost factor of hardware, software and support. The power of change that technology supports means that the contexts applied to developing technological (and 'information') literacy become ever more important. Whatever choices are made, it is important to give serious consideration to the factor of rapid obsolescence, and design learning units that interpret curricula appropriately and are sensitive to the constantly changing nature of technology and consequent literacy demands. In response to this, educators can and should build courses that interpret curricula using tools and modalities that are as far as possible 'future proof', while still having sensitivity to current social context.

If this shift in curriculum focus is achieved, then technology can become a 'virtual' benefactor, providing the means to access greater resources than could otherwise be afforded, by virtue of the fact that resources so obtained can be broadly shared. A wide-band networked infrastructure with access to appropriate software tools allows students, classes, and teachers to access and produce online materials, do extensive collaborative work, and share instructional resources. The Internet, for example, provides online information and is a medium by which students and schools can communicate and collaborate, opening opportunities for broad consultation. In this way, Information Technology infrastructures can impact on conventional instruction processes by expanding learning resources beyond individual teacher and school materials, providing lower cost sourcing of information and expertise, and providing communication links for isolated students.

- These advantages are only accessible however, if curriculum models facilitate their implementation, if the funding levels match the rhetoric, and if expenditure decisions are appropriate. Decisions which are not collaborative risk degeneration of the process of effective implementation of technological facilities and can cause overall degeneration in educational resources. Very few areas are more expensive than

technological infrastructure. Education Queensland's' collaboration with educators, in providing funding assistance develop appropriate electronic resources, illustrated in the Education Queensland Curriculum Resource Exchange is laudable, and demonstrates in its details the power and strength of collaborative and supported electronic information development processes. However assessment of current efforts in regards to collaborative decision making show mixed results.

- This is important consideration, as the cost of technology is frequently raised by advocates of barriers to incorporating technology into the educational environment. Blocks to the implementation of a strong technological infrastructure, associated with an appropriate curriculum, are largely psychosocial rather technical or directly economic. It is about what we choose to spend money on. The issue reflects the complications inherent in the social construction of curriculum, to which solutions can only be found through effective collaboration between community, educators and administrators.

TO DIFFERENTIATE WITH TECHNOLOGY IN A LESSON

The teacher as coach role also includes differentiating the lesson for students of varied abilities. Most classes have a wide variety of skill ranges, whether related to content skill or technology skill. Recognizing that students have differing abilities in technology and problem solving, the teacher can modify the lesson appropriately for individual students. There are many ways to differentiate instruction to meet the varied ability levels of students. Here we focus on the methods that are relevant to projects that incorporate technology.

USE STUDENT GROUPING

In the scenario on the previous pages, Sophie grouped students in different ways during the lesson. Working in pairs or teams on challenging projects is an excellent way to promote learning and higher-order thinking. When using the tools of technology to research or solve problems together, students will discuss, brainstorm, build on each other's ideas, and find solutions. This collaboration is teaching them higher-order thinking skills and the value of working together and will prepare them for the world outside of school. Having computers in the classroom actually promotes collaboration. It has been found that students with access to computers actually work together more than in classrooms without computers. The teacher as coach role means that the teacher strategically plans the groups for any technology project. At times, students of similar ability are paired or included in the same group, but more often, students of mixed ability are grouped together.

Another way to differentiate using student groupings is to have students work in pairs or teams for part of a project or assignment but then work individually for other parts of the assignment. For example, students can work together to

research and collect data but work by themselves to organize or display the data. Similarly, some students can work in teams and others by themselves on a particular task, depending on their abilities to complete the task alone.

MONITOR READING ABILITY

In the teacher as coach role, the teacher needs to monitor the reading ability of various students who are engaged in technology research. For example, if students are using the Internet to research a subject, you wouldn't want your lowest readers struggling through a university-level Ph.D. dissertation that they found online. The teacher should gently guide students to find research that is at the appropriate reading and age level. Another way to differentiate is to provide resources of varied reading and complexity levels. Seek out books and websites of varying reading levels and complexity before beginning a project to provide the necessary resources to students.

DISPLAY OF INFORMATION FOUND

Technology allows students to search for and display information in different ways. One group may decide to summarize their information by using a word-processing programme. Another group may decide to create a chart using a spreadsheet. Another group may decide to make a slide show presentation of their information. The teacher as coach can encourage creativity in the display of information. This teacher as coach role also applies to making sure students understand the ethics involved in using copyrighted material in their display of researched information.

EXTEND THE LESSON FOR HIGHER-ABILITY LEVELS

A great way to challenge higher-ability students is to extend a lesson with an open-ended question. In the example lesson above, Sophie extends the lesson for students who have completed their assignments by posing the question: Why are the physical characteristics of Earth and the moon similar or different? Students are encouraged to use books or a classroom computer to explore this question while the rest of the class finishes the original task. The next chapter outlines the national technology education standards that provide the framework for student learning using technology.

TEACHER AS COACH IN A LESSON INTEGRATING TECHNOLOGY

The Scenario

Sophie, a new teacher, wishes to address some of the technology and science standards her district expects her to teach her fifth-grade students. She has two computers in her classroom and access to 20 more computers in a computer lab. Each computer in her classroom and in the lab has word processing, spreadsheet, multimedia, desktop publishing, and drawing software programmes, as well as Internet access.

The Project

Realizing that being a new teacher is a challenge by itself, Sophie wisely decides to borrow a lesson idea from another teacher. In this case, she goes online and finds a standards-based lesson on an education website. The lesson poses the following question to students: How is the geology of Earth similar to or different from the geology of the moon? Students assume the roles of either geologists or astrogeologists to investigate the physical characteristics of Earth and the moon.

Students are to work in pairs and use their own observations, the Internet, and books to collect their information. They are given a chart which directs them to record what they find and sources of information they consulted. Once they have collected their information, students meet with a group that conducted the opposite research (*i.e.*, the geologists meet with the astrogeologists). At these meetings they discuss what is similar and different about the geology of Earth and the moon and record the information from the other group on the backs of their papers. Then, they are instructed to create a table in a word processing document and then a Venn diagram on paper comparing the physical characteristics of Earth and the moon

Days one Through Five of the Project

Before beginning, Sophie decides to tweak the lesson a little to fit the unique needs of her students. She decides, for example, that her students need to know a little more about conducting research on the Internet before the lesson. She spends day one in the computer lab showing students how to use a kid-friendly search engine to find information. She uses a computer projector attached to the teacher's computer to show students the steps.

Then Sophie gives them time to practice on their own. In the computer lab on day two, Sophie asks the students to recall from previous lessons the definitions of the terms geology and physical characteristics. She then uses the computer projector to show the students pictures of Earth and the moon. Next, Sophie asks the students to spend time in small groups discussing and writing down their hypotheses for the question: How is the geology of Earth similar to or different from the geology of the moon? Then she assigns the pairs of students to either the role of geologist or astrogeologist. She pairs students who are more familiar with technology with those who are less experienced.

She asks what the differences are between geologists and astrogeologists; students discuss this in small groups before offering suggestions. She tells students to use the Internet to find the physical characteristics of either Earth or the moon, depending on their assignment. While they are looking for information, Sophie walks around the classroom, listens to the students talking and working, and peeks at their computer screens. She assists students by talking them through any obstacles. She provides information when necessary to scaffold the lesson for struggling students. However, she resists the temptation to lead them directly to the answers.

On day three back in the classroom, Sophie provides geology books of varied complexity to students and presses them to find more physical characteristics of Earth or the moon. For those students with a complete list, she challenges them to choose one physical characteristic, predict how it was formed, and then find the answer using a classroom computer or a book. After students are given a little time, Sophie then directs pairs of students to meet and share their research. She explains that this is what scientists do: they share their research in order to further everyone's knowledge and build upon existing knowledge.

The pairs then exchange their research. On day four back in the computer lab, Sophie uses the computer projector to briefly remind her students how to create a table in a word processing document, which is a skill her students had learned in a previous lesson. The students are creating tables to display their research and the research of the other group. On day five, students work by themselves to create Venn Diagrams on paper, comparing and contrasting the physical characteristics of Earth and the moon. Sophie assists students who need help to complete their diagrams. As the students finish, they meet with other students who are finished to discuss their findings. Finally, students explain in writing how their original hypotheses were correct or incorrect. They are also told to think of reasons why the physical characteristics of Earth and the moon are similar or different. Students with time to spare are encouraged to use the classroom computers and books to explore this final question further. When everyone is finished, the class comes together to discuss that final question.

STATISTICS AND DEMOGRAPHIC DATA

- In assessing the impact of technology it is unfortunate that no comprehensive national surveys have been done in Australia, at least that this author could locate as of May 2000, however some analysis may be afforded of this issue by observing the following statistics from the Teaching, Learning, and Computing: 1998 National Survey Report #1, by the Centre for Research on Information Technology and Organizations at the University of California and The University of Minnesota, which was published in February, 1999. While the statistics relate to the United States (research was funded by the U.S., Department of Education) they do reflect a global trend in which Australia is a strong participant.

EQUITY IN INFORMATION TECHNOLOGY

- The resource sharing and collaborative communications extensions provided by new technologies can only do so on a broad scale if the problem of resource equity be addressed. If not, the benefits will only be provided to a few and create more disparity. Resources required include not just hardware and software, but training so that educators can manage these new tasks, and IT support staff to operate and maintain the networks that are developed. The issue of inequitable distribution of these resources

lead Brady and Kennedy refer to, "...multiple forms of disadvantage...". It is due to awareness of the realities of disadvantage, that the principle of equality of distribution and access to technological resources becomes a central issue for educators. Teachers, who currently undertake roles of implementers of curriculum, of providers of civics and citizenship education, as progenitors for school review processes and in facilitating aims of continuous improvement, must now vitalise and actualise another aim, that of realising appropriate curriculum development relevant to the collaborative environment of electronically networked information and communication facilities, cooperatively in a shared environment.

- Changes to Queensland curricula such as the Schooling 2010 Project reflect the new mandate for integration of technology through the curriculum. It is important that teachers do not find that they are working towards this alone. It must involve input from all sectors of the community, and particularly those directly concerned with administration and decision making for educational budgetary allocations. It is important that there is no increase in the gulf between the information rich and the information poor, and to do this it is necessary to ensure that all educators, as far as possible, are working towards the incorporation of the tools of technology in a manner that facilitates equitable and broad distribution. Achieving this demands a broad consultative process and the elimination of short-term political agendas.

Rapid change is occurring, inequitably, with difference of opinion on how best to respond and what solutions to implement. But one thing that perhaps can be agreed to by all is that education does need to adapt to the changes at least as they are occurring. Current educational philosophies support processes which facilitate students' development of willingness to experiment, comprehension of abstract concepts, advanced skills of problem solving, reasoning, awareness of social justice and ecological-sustainability issues, all within a framework of integration of technology in cross-curricular activities.

I believe that the changes we witness in technology mean that these processes have become even more valuable. I suggest that the most needed practical application for knowledge gained at school, in the industrial and technological 'real world', appears to be the ability to manifest higher-order skills within a context of thoughtful social awareness. While a background in basics remains important...what is basic is changing.

Pioneers in the use of computers and other technology in education have much to teach us about integrating technology into our classrooms. It is through their expertise, experience, observation, research, and discussion that we can learn how to best make use of the power of today's technology to teach. Pioneers in the use of computers and other technology in education have much to teach us about integrating technology into our classrooms. It is through their expertise, experience, observation, research, and discussion that we can learn how to best

make use of the power of today's technology to teach our students. Technology in the classroom is nothing new to education. In the past, computers were used mainly as a tool to teach basic skills through the use of "drill and kill" software. There is a place for those programmes that focus on basic skills, but educators are realizing the potential that computers have to help improve their students' education.

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Occupational Information and Vocational Education

Occupational information is the publication and dissemination of facts on the nature and prospects for employment in different occupations. The data derived from self appraisal enable the student to search for an occupation.

For the student to have an intelligent match between him/herself and jobs, he/she needs knowledge of the occupational, industrial, and labour structure of the country, classifications of occupations, occupational requirements, entrance procedures, occupational distribution, training opportunities, and employment prospects, and occupational hazards.

Self-employment is critical in an age when there are fewer jobs than the number of job seekers. Boys and girls need to be guided in assessing the resources around them, and exploring ways of making new products, and finding new sources of livelihood. In this regard, linkages between the guidance counsellor and science and technology should prove productive.

Consultation

The counsellor should give technical assistance to teachers, administrators and parents, and help them to be more effective. Personnel from a variety of occupations (e. g., medical, industrial), could be invited to speak to students.

Vocational Counselling

The major objective of vocational counselling is to assist the student to integrate the information about him/herself and the occupational world, and to

develop a plan for career development. This involves a face-to-face encounter between a counsellor and a client. The student is assisted before any occupational selection is made, and measures are taken to meet occupational requirements. The student must possess an understanding and acceptance of her/his personality, interests, aptitudes, and background.

Placement

This is a co-operative enterprise which involves the services of the school, community and the student. The term 'placement' refers to helping the student obtain part-time or full-time employment. The term also includes giving the student work experience, and placing him/her in an appropriate vocational training institution. It involves record-keeping, vocational counselling, employment contacts, supervision, and follow-up.

Community Occupational Surveys and Follow-up Studies

The counsellor must conduct Community Occupational Surveys and Follow-up Studies of school-leavers, and procure data on local training and employment conditions, labour turn-over, and job opportunities. Such surveys should be conducted because the majority of workers find employment in their immediate environment or community. Follow-up studies on graduates should be made.

Evaluation

The counsellor should determine the impact of the vocational guidance programme on students, schools, and society, and find out how any deficiencies in the programme can be removed.

JOB DESCRIPTION AND SPECIFICATION

The job description will outline the role and responsibilities of the person in their function. It will also set out who the individual should report to within the organisation.

The job description is an important document to help you understand the role of the individual. Once you have a copy of this document, find out from the line manager who are the individual's internal and external customers and who they interface with in their role.

This will give you a greater understanding of the function that the individual plays within the organisation.

Job Specification

Refer back to the job specification that was developed for the new incumbent. Job specifications set out the requirements of people in the role. A job specification sets out the essential skills, knowledge and experience needed in the role as well as the desired.

EXAMPLE OF JOB SPECIFICATION

Essential:

- Minimum three years' experience in the field of training and development
- Good interpersonal skills
- Effective presentation skills
- Minimum of two years' experience of working with senior and middle managers

Desirable:

- Experience of delivering interpersonal skills training to senior and middle managers
- CIPD qualification.

RELEVANT COMPETENCY FRAMEWORK

Many organisations utilise a competency framework to help identify the competencies or skills needed for someone to fulfil their role. In this case, if the organisation had such a framework, your job will be made far easier. Competency frameworks are usually designed with various families of skills in mind.

Each 'family' shows the different levels of competence needed. Here for example is one organisation's competency framework for the competency family of 'customer service'.

Level 1:

- Listens actively to customer requests
- Demonstrates willingness and enthusiasm to meet the needs of customers
- Applies knowledge of service standards and processes to meet customers' needs.

Level 2:

- Provides solutions to a wide range of customer requests
- Deals effectively with customer complaints
- Puts themselves in the customers' shoes and manages win-win outcomes.

Level 3:

- Achieves customers' goals by proactively working through others
- Deals with complex grievances satisfactorily, maintaining a relationship with customers and gaining trust and respect
- Actively seeks feedback from customers.

Level 4:

- Shapes customers' attitudes
- Champions customer service excellence and acts as a role model for others
- Continually improves the service offered to customers.

When an organisation uses a competency framework it is able to plot the desired level of competency against each job role. Competency families are usually presented at different levels, so the higher the level the more skill and competence the person needs to demonstrate. A competency framework is a very useful tool to the person undertaking a learning needs analysis as it allows them to pinpoint the desired level of performance.

JOB SATISFACTION A PRIME REASON FOR SEEKING CAREER GUIDANCE

At Career Vision, we are often asked to describe our typical client. That is a difficult question to answer because we provide services to clients who range in age from high school to retirement. Our emphasis for the last two years has been to improve Career Literacy™ for high school age families. The early-age focus is driven by the increasing importance and expense of post-secondary education and the statistics on job satisfaction and school completion. However, we continue to work with many adults, from young professionals to experienced executives. They generally fall into five categories. Which category describes you best?

1. *The Proactive:* These are successful, take-charge individuals who really understand that they are responsible for their own career management. They are hardworking, dedicated employees who have learned they need to set time aside to plan strategically for their success and satisfaction – and do so.
2. *The Negotiator:* This is a relatively new type of employee. They strongly value their quality of life. They are often quite talented and in positions which require a high level of performance. They are looking for more independence in the way they approach work. These individuals are looking for career options that can help take advantage of an increasingly flexible and evolving workplace.
While we occasionally see individuals who are not successful in their work, many of our clients fall into the category of dissatisfied workers. These are competent people, who are currently employed and working hard, but are experiencing some type of stress or dissatisfaction on the job. They fall into the following three categories:
3. *The Mismatch:* These individuals are clearly in the wrong job. They are usually required to perform tasks which tap into their weakest areas or aptitudes. A simple example would be a highly creative individual who spends his/her day doing paper-and-pencil or online clerical tasks. These types of positions are often found in the entry-level range. An individual who works hard may find that they are promoted or moved into even more detailed or administrative positions. They operate on a blind hope that eventually they will land in the right spot or someone will recognize their under-used talents. While this can work out, it is a very shortsighted, random approach that usually leads to growing dissatisfaction, even if the salary increases.
4. *The Multi-talented:* These individuals thrive on learning new things and taking on new projects. While they are being challenged, their satisfaction level is high. Unfortunately, when their position becomes routine or does not draw on their multiple talents, they become frustrated and bored. These restless people often move from job to job. Without a plan, they can become the “Jack/Jill of all trades, but master/mistress of none”.

5. *The Burned-out:* These individuals are dedicated and believe that hard work will gain them the rewards and advancement they think will bring job satisfaction. In some cases, this will be true. More often these individuals sacrifice all their time and energy for the organization, without really thinking about what they want for the future. They often become angry and resentful. Many of these people remain undiscovered because they have not communicated a sense of direction.

Career planning is complicated. Each person's situation and set of opportunities is unique. We are proud of our process which encourages individuals to make informed choices to increase their satisfaction and success on the job.

KEY INGREDIENTS FOR JOB SATISFACTION

If everyone's definition of good job satisfaction is different, it means that the recipe to reach job satisfaction will change from person to person. There are, however, some key ingredients that often go into a feeling of enjoying your job.

Figuring these out can be the key to helping increase employee motivation. Some of the most commonly sought-after aspects of jobs are listed below.

1. *Job security* L Worrying about whether or not you will have a job in six months is stressful. Having good job security makes people happier in their jobs, meaning it's possible to work towards long-term goals and feel a stronger sense of community and purpose within the company.
2. *Working conditions:* It should go without saying, that all employees feel better with good working conditions. If your workplace is a pleasant space to spend time, where you receive constructive feedback without harassment, you will feel more at ease in the job and, therefore, more satisfied. Unscheduled overtime, unrealistic performance expectations and toxic work culture can all lead to feelings of dissatisfaction and a desire to look for other work. Being careful to construct a healthy work environment that emphasises the value of its employees, on the other hand, leads to good working conditions and an increase in job satisfaction.

Learning about Professional Resilience: Building Skills to Thrive at Work with Deakin University will help you advocate for yourself and contribute to a healthy work environment.

3. *Pay and benefits:* This is a particularly divisive aspect of work. Some people will take lower-paying jobs that provide them with satisfaction by minimising pressure, allowing for a healthy work-life balance. For many people, however, pay is a large contributor to job satisfaction. Of course, almost no one will turn down higher pay if they like their job. Added benefits are important, too. Benefits can feel more personal than a pay packet and usually add value beyond a paycheck to a role.
4. *Communication:* Clear and open communication in a workplace makes employees feel trusted and appreciated. It dispels any worries they may

have about their performance, increases transparency within the company and encourages trust. Communication is incredibly important at work. If you're looking to improve your skills, the Communication and Interpersonal Skills at Work course by The University of Leeds is a perfect place to start.

For a lot of employees, it's important to be able to communicate openly with their managers when they have concerns, complaints or are dealing with personal matters, without there being a risk of punishment for doing so.

5. *Recognition:* If you put a lot of effort into your job, you want that to be acknowledged. Recognition can include bonuses — financial or otherwise — or can be as simple as being appreciated by fellow employees and your boss. If people feel their efforts go unnoticed, they will likely stop working as hard in the future or feel that their job is unrewarding.
6. *Career development:* While some people are happy to work one job indefinitely, others want options for career development and progression. This can include having plans and routes for promotions, or in-built ways to improve skills and study for new qualifications in line with their desired career progression. Learning a little about the Essential Skills for Your Career Development with this course by the University of Leeds will fast-track your progress.
7. *Variety:* Job variety can be vital to fostering satisfaction. While having employees focus on a single task can help efficiency, it can be demoralising for people to have no flexibility or diversity in what they do. Employees are usually more satisfied when they have the opportunity to participate in interesting and challenging projects.
8. *Acknowledging employee differences:* If people feel that the employer sees and acknowledges their differences, they are likely to be more satisfied. No one likes to be treated as just a number or a statistic – we would all much rather be treated as individuals. This means both acknowledging the employee as a person beyond the workplace, as well as seeing and respecting their strengths and experiences. Both of these approaches help people feel more valued.
Understanding the importance of diversity and inclusion is key to developing a healthy workplace. Get started with the ExpertTrack course, Develop Diversity, Equity, and Inclusion in the Creative Industries to ensure you're creating a safe, inclusive and supportive workplace.
9. *Company values:* It's hard for people to feel committed to a cause that they don't agree with. This is why having core company values is so important. Working for a company that aligns with your values will increase your desire to work for that company. If a company doesn't match its core values with action, this can create dissonance and make people feel less satisfied in their job.

This is why the idea of working for charities or in healthcare can be attractive. Many people want to feel like they are making a difference in the world, but it can be more subtle than this. If companies encourage charity fundraising or if they are committed to good environmental practices, for example, employees are more likely to be satisfied with the company they work for because it aligns with their values.

10. *Human contact*: As mentioned before, many people want to work for companies or in roles where they help others. This can be a major driving factor for many; helping someone else as part of a job instils a sense of purpose. However, for other people, working with members of the public can be difficult for them. In this case, they are likely to feel more satisfied working alone or as part of a small team.
11. *Work-life balance*: Most people work to afford their lifestyle, so it's important to consider the work-life balance that employees have. There has to be room in a job role for life's big moments – such as starting a family. Respecting this and providing support to encourage a healthy work-life balance leads to employees feeling valued.
12. *Respect for illness*: Most people will hopefully only become ill once or twice a year, but sometimes people are ill for longer, or more often. This is especially true after the COVID-19 pandemic. It's important for employees to feel safe to recover from illness, without worrying that they might lose their jobs or feel pressured into working when they are unwell.

VOCATIONAL AIMS IN EDUCATION

Bearing in mind the varied and connected content of the vocation, and the broad background upon which a particular calling is projected, we shall now consider education for the more distinctive activity of an individual.

An occupation is the only thing which balances the distinctive capacity of an individual with his social service. To find out what one is fitted to do and to secure an opportunity to do it is the key to happiness. Nothing is more tragic than failure to discover one's true business in life, or to find that one has drifted or been forced by circumstance into an uncongenial calling.

A right occupation means simply that the aptitudes of a person are in adequate play, working with the minimum of friction and the maximum of satisfaction. With reference to other members of a community, this adequacy of action signifies, of course, that they are getting the best service the person can render. It is generally believed, for example, that slave labour was ultimately wasteful even from the purely economic point of view -- that there was not sufficient stimulus to direct the energies of slaves, and that there was consequent wastage. Moreover, since slaves were confined to certain prescribed callings, much talent must have remained unavailable to the community, and hence there was a dead loss.

Slavery only shows on an obvious scale what happens in some degree whenever an individual does not find himself in his work. And he cannot completely find himself when vocations are looked upon with contempt, and a conventional ideal of a culture which is essentially the same for all is maintained. Plato laid down the fundamental principle of a philosophy of education when he asserted that it was the business of education to discover what each person is good for, and to train him to mastery of that mode of excellence, because such development would also secure the fulfillment of social needs in the most harmonious way. His error was not in qualitative principle, but in his limited conception of the scope of vocations socially needed; a limitation of vision which reacted to obscure his perception of the infinite variety of capacities found in different individuals.

An occupation is a continuous activity having a purpose. Education through occupations consequently combines within itself more of the factors conducive to learning than any other method. It calls instincts and habits into play; it is a foe to passive receptivity. It has an end in view; results are to be accomplished.

Hence it appeals to thought; it demands that an idea of an end be steadily maintained, so that activity cannot be either routine or capricious. Since the movement of activity must be progressive, leading from one stage to another, observation and ingenuity are required at each stage to overcome obstacles and to discover and readapt means of execution. In short, an occupation, pursued under conditions where the realization of the activity rather than merely the external product is the aim, fulfills the requirements which were laid down earlier in connection with the discussion of aims, interest, and thinking.

A calling is also of necessity an organizing principle for information and ideas; for knowledge and intellectual growth. It provides an axis which runs through an immense diversity of detail; it causes different experiences, facts, items of information to fall into order with one another. The lawyer, the physician, the laboratory investigator in some branch of chemistry, the parent, the citizen interested in his own locality, has a constant working stimulus to note and relate whatever has to do with his concern.

He unconsciously, from the motivation of his occupation, reaches out for all relevant information, and holds to it. The vocation acts as both magnet to attract and as glue to hold. Such organization of knowledge is vital, because it has reference to needs; it is so expressed and readjusted in action that it never becomes stagnant. No classification, no selection and arrangement of facts, which is consciously worked out for purely abstract ends, can ever compare in solidity or effectiveness with that knit under the stress of an occupation; in comparison the former sort is formal, superficial, and cold.

The only adequate training for occupations is training through occupations. The principle stated early in this book that the educative process is its own end, and that the only sufficient preparation for later responsibilities comes by making the most of immediately present life, applies in full force to the vocational

phases of education. The dominant vocation of all human beings at all times is living -- intellectual and moral growth. In childhood and youth, with their relative freedom from economic stress, this fact is naked and unconcealed.

To predetermine some future occupation for which education is to be a strict preparation is to injure the possibilities of present development and thereby to reduce the adequacy of preparation for a future right employment. To repeat the principle we have had occasion to appeal to so often, such training may develop a machine-like skill in routine lines but it will be at the expense of those qualities of alert observation and coherent and ingenious planning which make an occupation intellectually rewarding. In an autocratically managed society, it is often a conscious object to prevent the development of freedom and responsibility, a few do the planning and ordering, the others follow directions and are deliberately confined to narrow and prescribed channels of endeavor. However much such a scheme may inure to the prestige and profit of a class, it is evident that it limits the development of the subject class; hardens and confines the opportunities for learning through experience of the master class, and in both ways hampers the life of the society as a whole.

The only alternative is that all the earlier preparation for vocations be indirect rather than direct; namely, through engaging in those active occupations which are indicated by the needs and interests of the pupil at the time. Only in this way can there be on the part of the educator and of the one educated a genuine discovery of personal aptitudes so that the proper choice of a specialized pursuit in later life may be indicated. Moreover, the discovery of capacity and aptitude will be a constant process as long as growth continues. It is a conventional and arbitrary view which assumes that discovery of the work to be chosen for adult life is made once for all at some particular date.

One has discovered in himself, say, an interest, intellectual and social, in the things which have to do with engineering and has decided to make that his calling. At most, this only blocks out in outline the field in which further growth is to be directed. It is a sort of rough sketch for use in direction of further activities.

It is the discovery of a profession in the sense in which Columbus discovered America when he touched its shores. Future explorations of an indefinitely more detailed and extensive sort remain to be made. When educators conceive vocational guidance as something which leads up to a definitive, irretrievable, and complete choice, both education and the chosen vocation are likely to be rigid, hampering further growth. In so far, the calling chosen will be such as to leave the person concerned in a permanently subordinate position, executing the intelligence of others who have a calling which permits more flexible play and readjustment. And while ordinary usages of language may not justify terming a flexible attitude of readjustment a choice of a new and further calling, it is such in effect. If even adults have to be on the lookout to see that their calling does not shut down on them and fossilize them, educators must certainly be careful that the vocational preparation of youth is such as to engage them in a continuous reorganization of aims and methods.

CONCEPT OF VOCATIONAL GUIDANCE

Vocational guidance according to DAW is that which have to be made well before the school leaving stage. Indeed with comprehensive education potentially offering a greater educational opportunity a good case for an increasingly important role for vocational guidance can be made. It is worthwhile to look at some of the concepts or frames of references that are fundamental to a consideration of occupational choice.

Crites suggest that there are five sets of concepts that need to be considered. Firstly, how far is occupational choice the result of systematic behaviour as opposed to chance? Clearly the practice of vocational guidance is concerned with systematizing choice.

Thus, vocational guidance is not only adjustment but also achievement and development of the individuals to the maximum extent to be successful in their chosen occupations to be satisfied and useful to the society.

Let us discuss the objectives of vocational guidance:

- To assist the student to know about the characteristics, functions, duties of the occupations of his choice.
- To enable him to find out what are the specific criteria as skills, abilities, age, *etc.*, are required for the occupations of his choice.
- To assist the student to know about his skills, abilities, interests for making wise choices.
- To assist the student to acquire the technique of analysis before making any final choice.
- To provide opportunity for experiences in school and out of school this may provide an idea of the work environment to the student.
- To help the student realize that all honest labour is worthwhile.

The recommendations of Education Commission set up by Government of India in 1964 indicated the aims and scope of vocational guidance. These recommendations suggest the following:

- The aim of guidance is not just to help student in making vocational choices but also be focused on the development of the child as good citizen.
- Guidance should be provided in solving learning difficulties, academic excellence, developing study habits and must be started at the primary stage itself.
- Guidance role is very crucial at the college level as at this stage student faces many problems related to educational vocational and personal. They should be make aware about the job market and how to make adjustment in it.
- Information may be provide about the training, competitive examinations and scholarships available.

NEED AND FUNCTIONS OF VOCATIONAL GUIDANCE

- *Bringing individuals at par with the demands of the jobs:* As we all know that individual differences exist among all and no two individuals can have

the same abilities, skills and personalities. We can understand it with an example as a person can be skilled in doing a desk job while the other can be skilled in the field job so the skill differs and thus the demand for the job also different from different individuals. Thus here vocational guidance is needed for matching the right job with right individual.

- *Assessing the right skill of an individual:* The capabilities and the limitations of an individual should be known to him, *e.g.*, a person may have interest in painting but may not have the skill to take it as a career. So here the work of vocational guidance comes to assist the individual in assessing himself and then accordingly choosing the right kind of job.
- *Expansion of the world of work:* Nowadays jobs are available at national as well as international levels. And it gives rise to many queries as how one can choose the best from several alternatives? How to know about the details of the occupation? How to apply? And many more all these are dealt with the help of vocational guidance.

OCCUPATIONAL INFORMATION IN GUIDANCE

The dissemination of occupational information in guidance is carried out in the following ways:

- *General group guidance:* The counsellor collects information and makes it available to groups of students. The students also collect information on various occupations for themselves.
- *Teaching of occupations:* The counsellor meets a class and teaches them about different occupations.
- *Career day/week activities:* Lectures on different careers, career demonstrations, debates, and film shows, are provided by the school.
- *Trips and excursions to industrial establishments:* Students go out of school/college to workplaces, to see things for themselves.
- *Career clubs:* The clubs can show films relating to careers, organise career quizzes, competitions, career conferences, dramas, and invite lecturers/employers to provide information on various careers.
- *Vacation jobs and work-study:* The school can assist students to obtain vacation jobs during the long vacation or provide work-study programmes.
- *Bulletin boards:* The school can display vocational, educational, and social information, on bulletin boards.
- *School subjects:* Teachers can relate their teaching of subjects to careers for which they are useful or applicable.

Kinds of Occupational Information which Students should know

- *Employment prospects:* Are the employment prospects for this occupation expanding or diminishing?
- *Nature of Work:* What are the pleasant or unpleasant things workers have to do? What tools, equipment, or materials, are used? What are the hours of work? Are there any shifts?

- *Work Environment:* Is it hot, cold, humid, dry, wet, dirty, noisy, *etc.*?
- *Qualifications:* What are the academic and/or physical qualifications?
- *Aptitudes:* What are the I.Q. and other special aptitudes needed?
- *Interests:* What are the interests of people who succeed in this particular occupation?
- *Legal and professional:* Is a licence or certificate required?
- *Preparation:* What kind of education and training is needed?
- *Entrance:* Is it by examination, by application and interview, or by capital investment?
- *Likes or dislikes:* What are the likes and dislikes of the job?
- *Advancement:* What proportion of workers advance? And to what positions?
- *Earnings:* What are the earnings per month and year? How are wages paid?

THEORIES OF VOCATIONAL DEVELOPMENT

Ginsburg, Axelrad and Herma Theory

In Ginsburg's theory, the central idea is that vocational choice is a process which extends from late childhood to the end of adolescence. Nevertheless, it has been extended to be lifelong. The theory gives some guidelines as to how an individual develops, and may explore, crystallise, specify, and achieve, goals at different stages of his/her life. Thus, the counsellor notes the stages of development and helps the individual to achieve his/her goals.

Super's Self-Image Theory

In Super's theory, defining a vocational preference means making an occupational choice consistent with one's image of oneself. Therefore, the counsellor is no longer an expert in the accurate assessment of vocational choice. The counsellor is rather the person who helps the individual to discover who he/she is, and what he/she can become.

Holland's Theory

In Holland's theory, individuals and occupations are categorised according to the same scale of attributes. Vocational choice consists of choosing an environment which corresponds to one of the defined personality patterns emerging from the scale. Therefore, the counsellor's role is to help the individual make the best use of his/her skills, express his/her values, and take on roles which are gratifying.

Erikson's Theory

The central notion of Erikson's theory is that of identity, seen as the integration of emotions experienced during childhood. Each stage of development leaves its mark on an individual. For example, during adolescence, identity is stabilised

through the formation of a set of ideals. Thus identity formation often implies resolving crises which had an impact on various stages of childhood. Hence the counsellor's role is less that of an expert who can best identify the occupation which best suits an individual (in particular an adolescent), but rather that of a specialist, who is there to aid people of all ages to achieve their personal goals. Thus, the counsellor helps people to become competent in their career development and concentrates less on their deficiencies.

THE MEANING OF VOCATION

At the present time the conflict of philosophic theories focuses in discussion of the proper place and function of vocational factors in education. The bald statement that significant differences in fundamental philosophical conceptions find their chief issue in connection with this point may arouse incredulity: there seems to be too great a gap between the remote and general terms in which philosophic ideas are formulated and the practical and concrete details of vocational education.

But a mental review of the intellectual presuppositions underlying the oppositions in education of labour and leisure, theory and practice, body and mind, mental states and the world, will show that they culminate in the antithesis of vocational and cultural education.

Traditionally, liberal culture has been linked to the notions of leisure, purely contemplative knowledge and a spiritual activity not involving the active use of bodily organs. Culture has also tended, latterly, to be associated with a purely private refinement, a cultivation of certain states and attitudes of consciousness, separate from either social direction or service. It has been an escape from the former, and a solace for the necessity of the latter.

So deeply entangled are these philosophic dualisms with the whole subject of vocational education, that it is necessary to define the meaning of vocation with some fullness in order to avoid the impression that an education which centres about it is narrowly practical, if not merely pecuniary. A vocation means nothing but such a direction of life activities as renders them perceptibly significant to a person, because of the consequences they accomplish, and also useful to his associates. The opposite of a career is neither leisure nor culture, but aimlessness, capriciousness, the absence of cumulative achievement in experience, on the personal side, and idle display, parasitic dependence upon the others, on the social side.

Occupation is a concrete term for continuity. It includes the development of artistic capacity of any kind, of special scientific ability, of effective citizenship, as well as professional and business occupations, to say nothing of mechanical labour or engagement in gainful pursuits.

We must avoid not only limitation of conception of vocation to the occupations where immediately tangible commodities are produced, but also the notion that vocations are distributed in an exclusive way, one and only one to each person. Such restricted specialism is impossible; nothing could be more absurd than to

try to educate individuals with an eye to only one line of activity. In the first place, each individual has of necessity a variety of callings, in each of which he should be intelligently effective; and in the second place any one occupation loses its meaning and becomes a routine keeping busy at something in the degree in which it is isolated from other interests.

No one is just an artist and nothing else, and in so far as one approximates that condition, he is so much the less developed human being; he is a kind of monstrosity. He must, at some period of his life, be a member of a family; he must have friends and companions; he must either support himself or be supported by others, and thus he has a business career. He is a member of some organized political unit, and so on. We naturally name his vocation from that one of the callings which distinguishes him, rather than from those which he has in common with all others. But we should not allow ourselves to be so subject to words as to ignore and virtually deny his other callings when it comes to a consideration of the vocational phases of education.

As a man's vocation as artist is but the emphatically specialized phase of his diverse and variegated vocational activities, so his efficiency in it, in the humane sense of efficiency, is determined by its association with other callings. A person must have experience, he must live, if his artistry is to be more than a technical accomplishment. He cannot find the subject matter of his artistic activity within his art; this must be an expression of what he suffers and enjoys in other relationships -- a thing which depends in turn upon the alertness and sympathy of his interests. What is true of an artist is true of any other special calling.

There is doubtless--in general accord with the principle of habit -- a tendency for every distinctive vocation to become too dominant, too exclusive and absorbing in its specialized aspect. This means emphasis upon skill or technical method at the expense of meaning. Hence it is not the business of education to foster this tendency, but rather to safeguard against it, so that the scientific enquirer shall not be merely the scientist, the teacher merely the pedagogue, the clergyman merely one who wears the cloth, and so on.

3

Philosophical Foundations of Curriculum

MAJOR PHILOSOPHIES AND CURRICULUM

Philosophy is defined as a search for the wisdom of life besides an attempt to understand the universe as a whole and according to John Dewey (1916) “philosophy may even be defined as the general theory of education.” Ammar al-Talbi (1993) stated that philosophy dictated “what the human being ought to learn in order to be in tune with his own epoch, to live intelligently in society, and to be a citizen bringing benefit both to himself and to the community; hence the importance of education. It is the aim of education which takes precedence, only then come the means to realize these aims.” In other words, philosophy is the starting point for curriculum development as stated by Dewey. On the other hand, Tanner & Tanner (1980) pointed out that “the term philosophy is often used by teachers and administrators to convey their common-sense outlook on educational and curricular matters”.

Curriculum makers need some belief to refer to which gives meaning to the decision and actions that they made. By consulting a philosophy, the content and organization of curriculum are controlled via its ideas, attitudes and beliefs about nature of knowledge, society, individual and learning. As a result, the curriculum makers are able to answer questions pertaining to curriculum development such as what subjects are of value, how students learn and what methods and materials should be used. Without philosophy, “(we make) mindless vaults into saddle...” as pointed out by William Van Til. The

importance of having philosophical views to establish the important components within the curriculum is stated by Horton & Hanes (1993), "These views are best expressed by taking an eclectic or integrated approach, drawing from Naturalism, Pragmatism, Existentialism and Phenomenology. Briefly, Naturalism advocates individual development, by not imposing social conformity, and encourages close contact with nature. From the Pragmatist school of thought comes the idea that knowledge can be created through reconstruction of experiences. The philosophy of Existentialism and Phenomenology is tempered so as not to become contradictory with the Naturalist view. The belief held here is that the world is alienating and the way to deal with existence is to take responsibility for one's life. It then becomes necessary to understand and deal with events in an individual's life from their historical perspective. The goal should be to help the individual realize choice is a key element in developing a life of personal growth. Lifelong learning is also a possibility when choices are realized. To see alternatives, understanding must be gained in regard to self and others. The more information an individual possesses, the greater the number of choices possible."

While Bode (1931) expressed that philosophy functioned as a source of illuminating education aims and practice and this statement is supported by Tanner & Tanner, "Philosophy serves as both a source and an influence for education objectives and curriculum development." Tyler (1949), in contrast, revealed that philosophy is used "to screen the heterogeneous collection of objectives thus far obtained so as to eliminate the unimportant and the contradictory ones". Therefore, in determining criteria for curriculum decision and curriculum objectives, the curriculum makers' philosophy and ideals control the way they look at the learner. "There is a compass available to curriculum leaders: philosophy." pointed Tanner & Tanner. They also noted that "in absence of philosophy, the teacher is vulnerable to externally imposed prescriptions, often mechanically treated, and to whatever schemes are dominant and fashionable at any given time." For that reason, Tanner & Tanner insisted that "schools should have a philosophy for educational direction, choice and the testing of innovations."

To conclude, philosophy is seen as giving meaning to the decisions and actions made by the curriculum makers. In the process of making decisions in education, curriculum makers have to look at different philosophies before focusing on those which serve the needs of the students, company and society. This is because the curriculum makers' belief, in the end, becomes the influence factor in the type of society or company that we are build.

Hindu Religious Studies

Child mind is like a sheet of white paper. A piece of white paper can retain the mark of a letter when it is scratched on the surface of the piece of paper. Similar is the case with the soft and simple mind of children. Any word or deal and any visible objects in the surroundings are easily reflected on the child mind. That is why elementary education for children is of utmost importance.

The prime objective of elementary education is to help develop each child as ideal human beings. All the efforts at the elementary stage of education are directed towards that end. Religious education can be of help in this direction. There is no alternative to the welfare oriented guidance given by religion in arousing the good sense and developing inner beauty of human beings. With this end in view provision has been made for religious education. Study of Hindu religion has been included amongst the religious education of the four major religious communities. The religious belief of Hinduism is widely spread. Many views and various ways have been accepted with respect and integrated in Hinduism. It can be said Unity is great in diversity. All the views and ways have only one objective: how to become ideal human being and build friendship through love for all and universal brotherhood.

God is at the root of (Hindu) religious faith. In Hindu religion God is worshiped both in embodied or shapeless form and in bodily or corporeal form. One can reach incorporeal through corporeal, can imagine unobservable from observable, can think of shapeless through one of form. God is present every where. That is why love of God becomes complete through the love of lifeless–living, grass–plant-trees, insects, birds-animals, and all human beings. God’s manifestation is there in whatever is beneficial, beautiful and the noblest. For this reason great persons have been recognized as the incarnation of God. Devotion to God is an extension of the Devotion to parents and preceptor/teacher. Cleanliness, magnanimity and love of the native land have also been considered as the integral part of religious precept and law.

For five year cycle of primary education 16 terminal competences have been determined for easy understanding keeping in view all the aspects of Hindu religion and accepting all the factors of reality. These terminal competences have been further divided into class-wise achievable competences. It is hoped, after achieving these competences, the learners of the Hindu religion will engage themselves in infinite efforts to become desired honest human being, good citizen, patriot and lovers of nature and development of humanity.

Objectives:

1. To establish in the mind of the learners an unflinching faith in God that will inspire them in all their thought and deeds, and help them in developing spiritual, social and human values.
2. Having faith in the Hindu philosophy which believes that God is present every where, God is in all human beings and God is in all creatures, learners will be inspired to love all creatures, trees and plants including humans.
3. The learners, on knowing that different deities/idols are the different forms and expressions of the power of the same one God, will be eager to worship the idols, and through such worship their respect/reverence and devotion to ultimate Ruler God will be deeper.
4. Knowing that great persons and descents of the deity are endowed with divine attributes and qualities of God, the learners will try to be liberal and great by following the life and conduct of such persons.

5. Knowing that healthy body is conducive to perform religious rites/ activities, the learners will keep their body healthy through games, sports and exercise of religious contemplation.
6. Learners will try to keep themselves neat and clean knowing that neatness and cleanliness are integral parts of religion.
7. Learners will be made conscious of their own and others' right and duties by participating in the performance of worship and festival (religious), family chores and social work, through such activities they will be inspired to build mutual love.
8. To inspire the learners to develop patriotism and enrich their country through remembering the old religious adage mother and motherland are superior to the heavens.
9. To know that morality and humanistic feelings are parts of religion and beneficial for human beings and be inspired to love human beings and be moral.
10. To inspire the learners to show respect and devotion to parents and other elders through establishing in the mind of the children the belief that you show respect and devotion to God by means of showing respect and devotion to parents and other elder person.
11. To instill in the minds of the learners a love for all human beings and all religions irrespective of caste, creed, sex and colour through creating an understanding in them that the fundamental teaching of all religions is the same and that humanity is the prime identity of human beings despite differences in religious practices.
12. The learners will always try to achieve humanity (*i.e.*, humanistic qualities) through living and knowing that the principal identity of human beings lies in their humanity and that development of humanistic attributes is an endless endeavour.

Terminal Competences:

1. To know that God is all –Powerful and Creator, and have an unflinching faith in God.
2. To know that God is present in all forms of life, and the love of creatures, plants and trees amounts to love of God.
3. To know that every work must be begun with the name of God, and that the name of God should specially be chanted in worship and prayer.
4. To respect and revere parents and God.
5. To know that to keep the body healthy, and that tidiness-cleanliness and purity are the parts of religion.
6. To know that one must speak the truth always.
7. To know that simplicity, generosity and good manners are the qualities of honest and pious persons.
8. To know about deities/idols and worship.
9. To know the names of the scriptures (sacred books) and their subject-matters.

10. Can recite correctly the hymns and the verses (in praise of Deity).
11. To know about the temples and places of pilgrimage.
12. To know that keeping promises and loving ones's own country are organs of religion and are means to acquire humanity.
13. To know about great persons and incarnates (of deities)
14. To know about the heavens and hells and rebirth.
15. To know that one should be respectful to all religions and love all people irrespective of community-caste-creed colour, and male-female.
16. To acquire religious and moral education through different stories and anecdotes.

Islamic Philosophy and Curriculum

There are a number of major trends in modern Islamic philosophy. First, there is the challenge of the West to traditional Islamic philosophical and cultural principles and the desire to establish a form of thought which is distinctive. From the mid-nineteenth century onwards, Islamic philosophers have attempted to redefine Islamic philosophy; some, such as Hasan Hanafi and Ali Mazrui, have sought to give modern Islamic philosophy a global significance and provide an agenda for world unity.

Second, there is a continuing tradition of interest in illuminationist and mystical thought, especially in Iran where the influence of Mulla Sadra and al-Suhrawardi has remained strong. The influence of the latter can be seen in the works of Henry Corbin and Seyyed Hossein Nasr; Mulla Sadra has exercised an influence over figures such as Mahdi Ha'iri Yazdi and the members of Qom School, notably Ayatollah Ruhollah Khomeini. The philosopher Abdul Soroush has introduced a number of concepts from Western philosophy into Iran.

Finally, there have been many thinkers who have adapted and employed philosophical ideas which are originally non-Islamic as part of the normal philosophical process of seeking to understand conceptual problems. This is a particularly active area, with a number of philosophers from many parts of the Islamic world investigating the relevance to Islam of concepts such as Hegelianism and existentialism. At the same time, mystical philosophy continues to exercise an important influence. Modern Islamic philosophy is thus quite diverse, employing a wide variety of techniques and approaches to its subject.

1. Reactions to the West
2. The Persian approach to philosophy
3. Modern trends.

Reactions to the West

There has been a tendency in the Islamic world since the late nineteenth century to explore the issue of the relative decline or decadence of Arabic intellectual thought and science as compared with its Western equivalent. During the Christian medieval period the Islamic world was in its cultural and political ascendancy, and was at the centre of theoretical work in both science and

philosophy. However, by the nineteenth century an enormous gap had opened between the Islamic world and the West. A wide variety of explanations for this decline have since been sought.

The realization that this gap existed led to the *Nahda* (rebirth or renaissance) movement between 1850 and 1914. Beginning in Syria but developed largely in Egypt, the movement sought to incorporate the main achievements of modern European civilization while at the same time reviving classical Islamic culture which predated imperialism and the centuries of decadence.

The main problem facing the *Nahda* thinkers had was how to interpret the Islamic cultural tradition, including philosophy, in an environment dominated by the West. Jamal al-Din al-Afghani and Muhammad 'Abduh both argued that Islam is inherently rational and need not be abandoned in the face of the encroachment of Western forms of scientific and cultural thought. The Egyptian philosopher Mustafa 'Abd al-Raziq also argued that it is possible to demonstrate the authenticity of traditional Islamic philosophical work and its modern relevance within Islamic society. He posits an inseparable link connecting rationalism and revelation in Islam, and he defends the traditional Islamic sciences as compatible with science and rationality. In this he constitutes what might be thought of as a more conservative position than his predecessor 'Abduh, who was more dubious about the values of some of the Islamic schools of thought, in particular of Sufism.

Muhammad 'Abid al-Jabiri suggests that a viable Arab future can only come about through a deconstruction and critique of the reasons for the decline of the Arab world. He criticizes the dichotomy between the Islamicists, who hark back to a Golden Age in the past, and the liberal Westernizers, who praise the principles of the European Renaissance from which colonialism originated. The solution he offers is the freeing of modern Arabic thought from both the language and the theological limitations of the past. The Arab mind has become very much part and parcel of traditional ways of exploring the world, and is restricted in its potential if it remains too closely wedded to its Islamic heritage.

Fu'ad Zakariyya' argued that the Arab world declined due to its inability to historicize the past and its dependence on tradition, while Zaki Najib Mahmud brought out the importance of philosophy in taking us from the known to the unknown, and was critical of the ability of religion to interfere with this movement in thought. Hasan Hanafi presents a form of phenomenology which argues that a new concept of *tawhid* (divine unity) should be developed which will involve a principle of unity and equality for all people.

Hanafi also throws the charge of decadence back at the West, suggesting that the West is now entering a period of decadence and will require an infusion of ideas and energy from the East. He uses the language of liberation theology, which holds that revelation is adaptable to the language of each age. The original revelation was suited to the time and place of the Prophet and not necessarily of the current world. Modern Muslims should reinterpret revelation in modern language and in accordance with present demands; fossilized conservatism is a misinterpretation of the true dynamic and dialectical spirit of Islam.

Fazlur Rahman also contends that Islamic conservatism contradicts the essence of Islam. Islam's aims are economic reform and the establishment of a just social order. According to the Qur'an, he argues, moral and economic decline are related events. Therefore Islamic societies should turn away from petrified conservatism and educate their children in the new technologies. Islam should not be limited to communities of the faithful, but should seek a prominent place in the new ethical and social world order.

Another movement in Islamic political philosophy depicts Muslims not as the antagonists of Western culture, but rather as being in the vanguard of the globalization of peace and social justice. The most popular thinker of this school in the USA is Malcolm X, who began his career as an isolationist minister for the Nation of Islam movement. At first he used Islam to separate African-Americans from white people, but later he preached an internationalized Islam that reaches beyond racial and national differences.

An important African thinker in this tradition is Ali Mazrui, who tries to harmonize several interdependent factors in Islamic theology with current global realities. Mazrui proposes a marriage between the Islamic monotheistic *jihad* (universal struggle), Islam's anti-racist and humanist agenda, and the need for global economic cooperation; he employs culture as a vehicle for social change through his integration of multiculturalism, the politics of pan-Islamicism and the need for globalism. He takes Islam to be the first Protestant revolution in Christianity. Moreover, he suggests that Islam's economic message turns monotheism from isolated spirituality to communitarian humanism - in the form of a Muslim world order among a community of faithful (*umma*) - through global economic cooperation, social justice and the brotherhood of all. The essence of a multicultural perspective implies the acknowledgement that cultures project their own biases onto their perceptions of other societies.

In a world which demands global economic policy-making and increasing interdependency, Mazrui believes that Muslims should see their religion of 'all is Godism' as a type of globalism. His innovation (*ijtihad*) interprets the Islamic *jihad* as an agenda of global peace and justice, thereby transforming what is taken to be a negative image of Islam into a signal for economic unity and world peace.

The Persian Approach to Philosophy

The area of the Islamic world which continued most forcefully the Islamic tradition in philosophy after the decline of Peripateticism is undoubtedly Persia. Interestingly, one of the most staunch advocates of the form of thought which might be called neo-Illuminationism, and which stems from the *ishraqi* principles of al-Suhrawardi, is Henry Corbin (1903-78), a French philosopher who worked in Iran.

Corbin was active in translating and interpreting post-Avicennan Islamic philosophy with an emphasis on shi'ism, *ishraqi* thought and the mysticism of Ibn al-'Arabi. He posited the existence of a perennial school of philosophical wisdom, which can be detected through the recurrence of archetypal symbols such as the icon of light. Such icons exist in the works of Shihab al-Din al-

Suhrawardi in the early twelfth century ad, and have their source in Eastern (*ishraqi*) traditions such as Zoroastrianism, Hermeticism and Manicheism. (The term *ishraq*, which signifies 'light', also means 'East' or 'Orient'.)

For Corbin, '*ishraq*' designates not only a static spatial direction but a prescriptive invitation for a hermeneutic reorientation, whereby persons scrutinize their spiritual needs and points of return to archetypal origins. Corbin also discusses the role of the imagination, a faculty which exists between the senses and the intellect.

While the senses perceive discrete data and the intellect categorizes, imagination is concerned with the world of archetypes (*'alam at-mithal*). For example, the notion of the perfect person (*al-insan al-kamil*) is an icon for the psychic centre. This centre signifies peace and the perfection of the self-realization process. Corbin asserts that by means of a series of epistemic states - which include revelation (*kashf*) and recollection (or archetypal memory) (*dhikr*) - one may return to the eternal origin. This process describes a cycle, thereby reasserting the Islamic theme of the unity of being (*al-wahdat al-wujud*).

Corbin's followers, such as Hermann Landolt, William Chittick and Seyyed Hossein Nasr, have developed his ideas in a variety of different ways. The latter is the best known contemporary Islamic philosopher.

According to him, people share a spiritual component that cannot be actualized by either descriptive or pragmatic accounts of nature. Nasr's world perspective includes a normative element which integrates people in the same way as earlier religions and cosmologies (Nasr 1993). In the past, everyone considered their religion to be the true religion; today, however, we are confronted with a plurality of religions. How can a Muslim attain a workable relation with the sacred in such an environment? Nasr employs Sufism to refer to the archetypal dimensions common to all religions; it is through the realm of mysticism that different forms of spirituality meet. The contemporary world creates the need for followers of different creeds and cultures to communicate.

Islam must coexist with the Western world, but this does not imply an Islamic surrender to all the practices of Western society. Nasr's views on Western scientific progress show his dissatisfaction with many Western perspectives. Citing the ecological disasters of overpopulation and pollution, Nasr criticizes the value of Western technological advances. According to him, the fault lies in the mistaken metascientific presupposition that an innate nature exists which is disconnected from humanity and can be investigated separately and controlled.

Moreover, the increasingly pervasive quantitative perspective supplied by units of measurement - like that by which the size of a building might be described - is an incomplete outlook because it does not articulate the qualitative effects of what it describes on the surrounding environment. By contrast, Nasr holds that Islamic and Eastern perspectives on science and technology are integrative and harmonious. They stress unity in their studies of nature, thereby acknowledging the long-term ecological significance of development. Unless religious and spiritual values are embedded in a technological agenda, ecological

disasters as well as a general lack of a sense of meaning in life are inevitable. Western science and its technological consequences are of ecological import to modern civilization. Consequently, neither science nor technology can consider itself irrelevant to environmental ethics. Philosophy along Neoplatonic lines should be pursued, since only this form of analysis does justice to the spiritual wholeness of humanity.

The main emphasis in recent Persian philosophy has been on the thought of Mulla Sadra and al-Suhrawardi. Islamic philosophy has moved from the *madrassa* (traditional school) system and became an important part of the university curriculum. One of the most interesting thinkers is Mahdi Ha'iri Yazdi, whose work on knowledge by presence (*'ilm al-huduri*) provides an example of the fruitful combination of ideas from Western analytical philosophy and the *ishraqi* tradition in order to elucidate metaphysical and epistemological problems.

Recent Shi'ite theologians, as students of the work of Mulla Sadra, were versed in the dialectics of time and change. 'Ali Shari'ati, another student of Corbin, is an important social thinker whose work advocates a social process of Islamization. He rejects both the Peripatetic philosophers and the mystical thinkers, claiming that the existential being of each person contains a determination formed through mutual trust and compassion between them and God as their essence. This presumption is the ground for each person's being and the very core of each subject's potential for therapeutic unity (*tawhid*); its purpose is justice in both the providential and the social contexts. Islamization is achieved through an existential empathy and a phenomenological assimilation of exemplary people - such as the Imam Hossein (the Prophet's grandson) or Fatima (his daughter and the wife of Imam 'Ali) - into archetypal memory. The martyrdom of 'Ali or Hossein is a paradigmatic message, not for sorrow but for the assimilation of their characters into the self.

Further, Shari'ati depicts history as a dialectical process which does not exclude economic and material realities, Islam as a practical religion or people as potential agents of justice. He replaces the Platonic theory of epistemic recollection with a theory of normative archetypal recollection. One may gain normative knowledge through the archetypal recollection of a religion's most exemplary mythical figures. Religion provides social ideals, and yet it demands not a withdrawal to a secret realm but a social revolution in the everyday world.

A creative commentary on Mulla Sadra was produced by Ruhollah Khomeini, who argues that people are primarily social as well as private citizens. Thus religious teachings relate not only to the personal morality of individuals but also to their social responsibilities and political actions. In practice, these ideas imply a theocracy that does not distinguish between politics and religion. Bringing such a dominion into existence, he claims, requires an internal revolution from the masses directed against the existing ruling class, but this revolution must be guided by the directives of the religious authorities. He modifies Islamic theology with the notion of the religious jurist-ruler's guardianship (*velayat-e-faqih*), whose role is to guide the community of faithful

in their universal struggle (*jihad*). This *jihad* is not essentially military, but is largely educational and seeks the expansion of monotheistic (that is, Islamic) ethics.

Khomeini was a member of the School of Qom, based on the college in that city, which also produced Muhammad Hossein Tabataba'i, Murtaza Mutahheri and Muhammad Taqi Misbah Yazdi, all of whom have directed their influential thought at confronting the challenge to Islamic philosophy coming from the West. It should not be thought that this is an essentially reactionary strategy, however; Misbah has encouraged many of his students to study in the West and to take seriously scientific and logical thought as practised in the West. Also, although much of Misbah's work has been on Mulla Sadra, he has been far from uncritical of the latter. In particular, he criticizes the notion of prime matter, which Mulla Sadra identifies as the pure potentiality for existents. He questions the principle that a potentiality for existents exists prior to existents themselves; after all, there is nothing but existents. Misbah argues further that many relations are not truly essences. For example, in the mind-dependent realm, we may ascribe 'below' as a relation between a table and book, but this subject-directed ascription does not imply that below is an essence in the actual world.

An interesting and quite recent controversy in Persian philosophy has been that between Abdul Soroush on the one hand, and the philosophers of the school of Qom, as well as those influenced by the Corbin school, on the other. Soroush introduced a number of concepts from Western philosophy into Iran, in particular the leading ideas of Popper, Moore, Berlin and Wittgenstein. This led him to suggest that we should use a notion like that of collective reason to understand and interpret religious ideas. Collective reason is the best way of dealing with theoretical and practical problems, and is preferable to relying solely on solutions attainable through the efforts of the jurists and religious authorities. Not surprisingly, this aroused the ire of the school of Qom philosophers, and their representative Sadiq Larijani engaged Soroush in a debate which largely dealt with the correct interpretation of thinkers such as Popper, Watkins and Stalnaker, and in particular Hempel's paradoxes of confirmation. Soroush was also attacked by the Corbin circle, whose basic philosophical approach relies very much on Heidegger along with traditional Islamic philosophy, and who were quite out of sympathy with the analytical nature of Soroush's books. This controversy is interesting in that it brings out the fact that philosophers in Iran are generally familiar now not only with traditional forms of Islamic philosophy but also with the current philosophical ideas of the West. Modern philosophers do not entirely reject Western views, but neither are they completely taken over by the West; they are prepared to examine Western views with a critical sympathy.

Modern Trends

A very vibrant area in Islamic philosophy is the history of philosophy, in particular the Greek tradition in Islamic philosophy. There exists both in the West and in the Islamic world a large number of scholars who have developed

accounts of this close relationship and who continue to edit, translate and work on important texts in order to get some idea of the nature of the philosophical material which was produced in the early centuries of Islam. In addition, many philosophers in the Islamic world have adapted Western philosophy so as to make sense of the philosophical problems in which they are interested. C.A. Qadir in Pakistan developed an account of Islamic philosophy which he thought was in line with logical positivism, while ‘Abd al-Rahman Badawi applied existentialism to Arab society. Zaki Najib Mahmud followed William James in presenting a pragmatic account of philosophy. Some thinkers applied particular techniques in the Islamic tradition to philosophy, so that ‘Ali Sami al-Nashshar for example based his work on Ash’arite theology, while Muhammad ‘Aziz Lahbabi (1954) used Hegelianism to develop a theory of being which is quite unusual within the context of Islamic ontology. Hichem Djait (1986) combines Hegelianism with existentialism. He argues that only dialectical epistemology can be used to understand the modern situation of the Arab world, and that the apparent opposites of decadence/renaissance, Arab/non-Arab, orthodox/heterodox, tradition/modernity need to be transcended if we are to understand the present nature of Islamic culture. Abdallah Laroui (1976) and Muhammad Arkoun (1985) both stress the contrast between Islam and modernity, and the former advocates the adoption of Westernization as the appropriate strategy for the Islamic world. In his approach to the Qur’an, Arkoun uses the semiotic ideas current in modern French literature to argue that Islam has always been changing and developing, so that there is no point in referring to a particular constant orthodoxy.

While many of these thinkers are hostile to mysticism and its Islamic form, Sufism, there can be little doubt that the latter represents a very potent framework for a good deal of present Islamic philosophy. The tradition of Sufism presents both a way of life which avoids many of the rigidities of traditional Islam and also a complex conceptual system which enables the philosopher to develop ideas and arguments which are intellectually satisfying. Modern Islamic philosophy employs a wide variety of different techniques and approaches to the subject.

Philosophy of Christian Education

The philosophy of Christian Education of Resurrection Lutheran Academy is rooted in the belief that we exist to assist parents as the main educators of their children. Our goal is to produce children who know and believe in their Lord and Savior Jesus Christ. We strive for them to learn to live faithful, responsible, God-fearing citizens in the world wherever God has placed them.

We Believe:

- *In the one true God, the Holy Trinity: Father, Son, and Holy Spirit*
- *In a world view that is God-centred rather than people-centred*
- *That children should honor and respect those in authority as representatives of God*
- *In the centrality of the Gospel of forgiveness for Christ’s sake in the*

Christian life and the Church

- In a partnership and involvement with parents in their children's education and spiritual growth
- In an education that will introduce children to the beginnings of reading, writing, mathematics, science, geography, history, literature, music and art
- In academic standards which aim towards excellence and achievement.

Implication for Christian Education

The curriculum is taught with God's Word as the guide. The obligation of Christian education is to provide an environment, which develops the total Christian personality, that is favourable to the spiritual, mental, social, emotional, and physical growth of the student. The goal of Christian Education is service to God and the community. Therefore, the school becomes an arm of the church in its mission outreach.

In the development of his/her spiritual potential, Lutheran Education guides the child to:

- Acquire a thorough knowledge of God and His Word
- Recognize his/her sin and the need for salvation
- Accept Jesus as his/her Savior through the working of the Holy Spirit
- Rely upon God for both temporal and spiritual blessing
- Desire to conform to God's Law.
- Utilize the means of grace: the Word and Sacraments
- Lead a sanctified life
- Desire to lead others to the Savior
- Serve the Church through proper stewardship of time, talent, and treasure
- Prepare himself/herself for the second coming of his/her Savior so that he/she views death as the door to eternal life.

In the development of his/her intellectual potential, Lutheran Education guides the child in:

- Acquiring a thorough knowledge of the fundamentals of learning
- Developing an inquiring mind, independent thinking ability, and desirable study and work habits
- Evaluating all human knowledge in the light of divine revelation

In the development of his/her physical potential, Lutheran Education guides the child to:

- Regard his/her body as "the temple of the Holy Spirit."
- Use his/her body for purposes, which serve God and his/her fellow man
- Acquire and maintain desirable physical growth

In the development of his/her social potential, Lutheran Education guides the child to:

- Lead a Godly life
- Be kind and loving to his/her family and all associates
- Respect, under God, authority of home and state

- Recognize the rights, privileges, and obligations of others as well as his/her own
- Serve as a useful and active citizen in his/her community
- Share the Gospel of Jesus Christ.

Those who can, do; those who cannot, teach; those who cannot teach, teach Education. This kind of statement describes the American educational system in more ways than one. Education is too important to neglect it or hand it over to those who cannot or do not know how to educate children and young adults. Most American colleges have no philosophy of education at all. They may have some vague ideals or aims. But no concrete philosophy that has any value. Though American colleges do not have a philosophy of education that can be called unified, or have an elaborate world-view set for their students, instead, they cater to having a unity in opposition to Christianity.

If education is to produce something good, then there must be an inclusion of morality (which *good* emerges from) into that system. If that system of education desires to reject morals or religion, then that educational system will have no possibility of creating a productive moral system whatsoever. Modern education today has become unified on morals by adopting Anti-Christian philosophy as a basis for its education. Humanistic and communistic hatred of Christianity will be the prevailing notion as it already is. Dictators are not stupid. They have used education throughout the centuries to press political ideas and their own agendas. Today's media is not stupid. It also has harnessed education through celebrity popularity and Hollywood influence within the schools. Ads on TV promote celebrities giving ethical advice to young people, and to parents, in a non-religious but subtly guised "ethical" manner. Hollywood cares about the children of the country and so do dictators. The defect of all this is that it has no purpose or direction to accomplishing that purpose efficiently.

Philosophy in general is to study the whole of something, not the parts of something. And for a lack of series study as a whole, American education has lowered its standards, compromised with commercialism, and distinguished itself by mediocrity. There are, as a result, two trends going on in American education: government-propagandized vocational training which aims to crush private institutions by high taxes as well as omitting home schooling; and second, the large majority of university men desire free schools committed to the "wisdom" of the liberal arts. But this is not philosophy, or a philosophy of education that could be helpful to America as a whole. There is only one philosophy that can unify education and life, and that is the philosophy of Christian theism.

Humanists deny the Christian God and think they can shape young minds of the future for the better. Christianity is a supernatural religion that says no one is good, no not one, and that God is the only savior through His Son Jesus Christ. Men would rather not think about this and would rather think about the universe as a self-contained world with no possibility of the supernatural. If there is no supernatural, then there is no imputation of sin from Adam to the

rest of the human race, and thus, everyone is just OK trying to get along. Well, sort of. Men must begin to assume there is no God and then decide whether they think Jesus Christ is right, or Plato was right, or any other philosopher who came up with a philosophy of education. For humanism, things just are. Historical events are all just a bunch of brute facts that men should just accept with no cohesion at all. But who will prove that life has any meaning if history has no meaning? If history has no meaning, and world-views are irrelevant, then Jesus Christ is irrelevant and so are all the secular humanists and the books they have written about philosophies of education. As a matter of fact, if the secular humanist is right, then the reader is wasting his time with this paper as well. What world view will people choose that will promote a solid philosophy of education?

Skepticism cannot be chosen as a philosophy of education. Skepticism is not a worldview. It is a denial of everything. Skepticism must live according to some rule not by no rule. They must choose that God is God or there is no God. That makes them atheists not skeptics. Skepticism just leads them to their worldview. Atheists, in general assert there is no god, but to do this, they must themselves become omniscient to know this. They become God by denying God. The pantheist must do the same or their systems collapse. But either way, they still collapse for no one worshipped Bertrand Russell and paid him homage. Atheism can produce no evidence in its favour. None of the events of things in the world can validly support the conclusion that no God exists. Atheists try to set themselves on the scientific method of verification. But again, they cannot set themselves to this because the scientific method cannot prove that the past was like the present or that the future will even be; nor can it prove that the present is like the present. The truth of the Bible is the basic axiom of Christian theism which destroys a non-omniscient atheist making omniscient claims because it alone holds the theistic worldview of a God who not only has given men morals and a purpose for life, but demonstrates by divine revelation that every other religious or philosophical view is impossible to hold consistently.

What alternative is there to Christian theism? Whatever philosophy is chosen, the first principles of that philosophy will control the general tenor of a person's life. Some people (like Spencer and Alfred Lord Tennyson) grasped an evolutionary idea and mindset to begin their philosophy. This simply creates a pluralistic universe where good and evil (whatever those are or mean) struggle for domination. History is unknown, and value is unknown. Direction and purpose of life is unknown. Evolution's poster boy is Hitler for whom all must bow down. Who knows if Hitler was good and the extermination of the millions of people is good? Is not evolution simply the survival of the fittest? What atheist or evolutionist will deny Hitler the right of supremacy? Or, maybe supremacy should be handed over to the Supreme court of the US, the nine men and women who asserted abortion as legalized murder. Since that time over forty million children have been killed. But it's OK. It's all survival of the fittest! No one, in his or her right mind (which excludes all of humanity), would

live in such a worldview. But they do – and in happy inconsistencies (whatever “happy” means). Humanism cannot work and does not work. No incident, of any kind, can have a moral theory behind it in that worldview. Even art, just an eloquent pencil sketch of a hand, is only given value and means something in a theistic worldview.

Maybe philosophers are thinking about education in a new way. Maybe they are going to leave behind the nonsense of a naturalistic worldview and try something better? Optimism, though, is no remedy for bad education. Hoping things will get better will not work. Maybe everyone will die of AIDS in the coming year, or through some new mass plague. What is the value of life and why should life go on? Is optimism in hoping things will be better work? But if naturalism is allowed to go on, in spite of what Sartre or Heidegger thinks, suicide may be a great option. Suicide is absurd and meaningless to a naturalist. It is a vain and empty gesture. Nevertheless, upon reflection, education may simply take up the best ways to attempt suicide and leave it at that, hoping, that after the masses are taught a valueless system, they will answer Hamlet’s question (to be or not to be) in the negative – not to be! At least this would be logical to the rest of the theistic world. Non-theistic justification of any kind for any type of education is a failure. Even non-theistic math is a failure because arithmetic then means nothing. Nothing would have any value at all.

Some people like to become neutral about education. No religious propagation of any kind. However, this excludes naturalism and atheism of course, because the moment someone takes theism out of the picture a new worldview comes into play. Christians, though, should never be neutral about anything. They should speak about the absence of prayer in the schools. They should speak against promiscuous sex in school. They should speak out against handing out condoms to middle school children. There is nothing neutral about a Christian and Christian theism. Christians know that all men are conceived in sin. They are wicked and depraved and need to be redeemed. How then, knowing full well that the school systems are basically run by governmental agencies, can they be silent about theistic issues? If Christians worship God instead of society (going along with societies trends for convenience), then no sin is unimportant.

Some schools want to give students control over the curriculum in order to find out what their needs are and how they feel about such things. This is ludicrous. They come to learn not to control. How much does the student know about what he has come to learn? And should students be the ones controlling the information? Children need self-control by people who are not afraid to assert that control over them. Anyone can watch a secret camera from *60 Minutes* over a 5th grade classroom in an Indiana elementary school demonstrating that the teacher has no control over the class. Really she has become the referee in a bar fight, and hopes she can intervene in enough time before someone gets hurt. This is all to say that education policies of any educator or school system derive their character from an underlying philosophy.

Christianity is always attacked on educational fronts because Christianity is

exclusivistic and has all the answers everyone needs, and people hate that. Today, Christianity is attacked all through the public school system. Textbooks attacking Christianity in the school system are not illegal, but books on creationism are illegal. Teacher can deny creation and the Ten Commandments, but they cannot recommend to the student Christianity or Christian values. The school system that ignores God teaches their students to ignore God. This demonstrates that the public school system hates God, does not want their students to learning about God, and has openly legalized atheism.

These attacks against Christianity are not merely misrepresentations of Christianity (and there is enough of that) but simply a subtle plausible misrepresentation or misinterpretation. It is not set on hard facts that Christianity is wrong, but on plausibility that it might be wrong, and so the school system does not need any of that. It would rather set its standards on hard, cold facts that it can scientifically verify. Christian faith is not injured so much by clear denials of it as by the methods of persuasion used in bringing others to deny it.

Dewey, for example, attempts to instill an instrumentalism that rests on scientific facts. Morality is simply conventional. There is no criteria in which to judge change, nor is there a goal in progress. Things just are as they are. Does this sound rational? The Christian with his belief in the Law of God, and divine rewards and punishments has a reason for regarding suicide as immoral. Dewey has none at all. If morality is convention, then life is devoid of meaning and purpose. Dewey's book on the *Philosophy of Education* has had a huge influence on the American School system. Should one be surprised? Educators are out to destroy the Bible and to destroy Christian theism. And here there are Christian parents sending their children to public school justifying atheism by saying, "I went to public school and I came out okay." But, if their children are going to public school when they make this statement, then this writer must say, "apparently not."

Ethics are also on the list of extermination in public schools. Education is an ethical undertaking and it is impossible to not affect students in some ethical manner – whether with Atheism, agnosticism, the scientific method, or whatever. Schools teach sex education, where parents should be doing this with their bibles in their hands. But, to tell students that God condemns all sin is illegal. So the schools hand out condoms to fourteen year olds instead. The Gospel is that which restrains sin. When the gospel is removed, then all manner of brutality, corruption and crime should be expected.

The Bible allows for no morality to take place outside the Bible. This is clear through both the Old Testament and the New Testament and the laws which God enacts and upholds for all men for all time. Revelation, then, is necessary to teach Christian ethics. Aristotle thought that virtue could be practiced and honed. But without revelation, there is no virtue to practice. And real virtue is only enacted by the power of the Holy Spirit. There is a greater problem, though, at stake. The greater Christian community in the 21st century is simply not Christian. Will one justifiably say there are more than 20,000

Christian denominations in the US alone and then say, at the same time, there is nothing to be done about the Ten Commandments being taken out of the school or that prayer is abolished from it? Mysticism has replaced Christianity in most churches today. Mysticism is easier to deal with than standing up for ethical rights in schools – that takes brainpower. But most go to church on Sundays looking to “meet” God by way of some experience. That is just easier to cope with than having to formulate a system of ethics that pervades every sphere of life.

In creating, then a Christian philosophy of education, one starts with biblical revelation. The Bible is authoritative on its own, and Christians are to know what it says and draw authoritative directives from it to constitute a philosophy of education. Christianity should view itself, and does view itself when viewed rightly, that there is no other compatible system of thought besides it. It stands alone. Christianity is Jeremiah’s lonely ministry among professing believers. Christianity is when one voice speaks up, but speaks the word of God. If moral principles are enacted, then the reason they are enacted is because God gave image bearers His likeness to rationally think and dominate every sphere of life for His glory. This is clearly seen in passages dealing with the image of God in men. Genesis 1:26, “Then God said, “Let Us make man in Our image, according to Our likeness; let them have dominion over the fish of the sea, over the birds of the air, and over the cattle, over all the earth and over every creeping thing that creeps on the earth.” Genesis 5:1, “This is the book of the genealogy of Adam. In the day that God created man, He made him in the likeness of God.” Genesis 9:6, “Whoever sheds man’s blood, By man his blood shall be shed; For in the image of God He made man.” 1 Corinthians 11:7, “For a man indeed ought not to cover *his* head, since he is the image and glory of God; but woman is the glory of man.” Colossians 3:10, “and have put on the new *man* who is renewed in knowledge according to the image of Him who created him...” James 3:9, “With it we bless our God and Father, and with it we curse men, who have been made in the similitude of God.” Morality constitutes reflecting the image of God, and this is something the wicked cannot do unless they are first changed. The image of God is there for a reason, and the Christian should understand what that reason is – the glory of God. Naturalism of all kinds rejects the image of God and thinks that man evolved from an evolutionary cycle. But then, one must return to purposelessness and suicide as the only logical option.

The object of education is truth. God is truth: Truth should be transmitted to the younger pupils and the discovery of new truth by more advanced students. All our dignity consists in thinking about truth. For example, the intellectual standing of art, its function in society, of its relation to religion and morality is a precious gift of God to men. This is the subject of education. Humanists cannot give adequate recognition to this wonderful power of thought. A man is a single person that is able, because of the image of God, to think rationally. He is not made of up parts and did not evolve from one part to another. Humanism has no final truth to offer at all, but theism does. Through the intellect man is able to

come into contact with reality, and ultimate reality at that. Reason should never be set above emotion, and emotion (as Schleiermacher would have desired) cannot rule the intellect. The intellect reigns supreme in the constitution of man and his intellect should bring all his affections into obedience before God in submission to God's will.

A philosophy of education is relatively simple to set up, but it is the particulars of that philosophy that are complex. The sound principles governing any curriculum for the student should stress those subjects that will prove useful to the student no matter how he may choose to live his life later on. Should one give their tax money to baby-sit children for 120 years while they coast through school, or should schools develop a curriculum that would actually benefit the student? Government high school education in this regard is deplorable. Christian high schools always do better. Since governmental school cannot tell students to serve God with their mind, only Christian schools can fulfill the intellectual needs of the students. Schools of education with their uneducated faculties should be abolished. It is amazing that so many school have inept teachers and inept leaders running them.

Gordon Clark rightly says, "The preservation of law and order, without which school and civilization cannot exist, is aided more by Christian schools than by public education." Through certain governmental structures Christian Schools thrive better. Here, Protestants should be supporting a Christian governmental structure and not a pagan governmental structure. Christianity must affirm the divinely given powers of the state and also its God-imposed limitations to have a foundation by which Christian schools can thrive. Education should start in the home, move to the church and finally use the tools of the State for the glory of God. It is important to have Christian education from Kindergarten to the University level. This does not mean every person should be trained as a minister of the Gospel or theologian, but that every sphere of life is arrested by the teaching of the bible, from the earliest years to the latter.

Family consists as an important part of education of the country. Without parents taking responsibility for their children, and teaching them values from the Bible, they are left with no weapons to deal with the outside world. Whenever a boy or girl is properly instructed by parents and forewarned of the existence of enemies, the enemies do little damage. Education, properly understood, is not about preparing a youth for this or that specific type of vocation, but for preparing them to be men. He should not be thrown into a pagan school system to learn how to be a man. They do not teach that there. They teach them how to be animals. Just because a young man survives pagan instruction is no reason for subjecting him to it. Children sometimes survive pneumonia, or the bubonic plague, but what parent would want to give it to his child? Single families may say, "We just cannot teach our child any other way – we do not have the fiancés to send them to private schools and cannot home school." This may be true, but a church community could do this very easily. That is why the State hates home schooling because atheistic education is taken out of their hands and placed in

the theistic education of the parents. It is the quality of the education that is needful in a Protestant worldview setting.

How do we learn? Many people think learning is done by sense experience. They deny a priori forms in the mind and believe that life is seen through the empiricist's glasses. The problem here lies in the inability of the scientists and the scientific method, to come to a fact on anything. They are not omniscient so everything they test is a guess, and it is not a perfect guess. They have no perfect formulas that never deviate – they always deviate because they are never perfect. Their measurements are close, but not perfect. Every law they have are partial formulations based on some data which means they have nothing to say about anything concretely.

Empiricism cannot work. Even in Christian circles some people think that Adam was an empiricist. Adam knew what commands God gave, and he understand that god gave them. Are we then suppose to believe that he laboriously worked out the cosmological argument, including the physics that underlined it? Empiricism cannot produce moral facts from scientific findings. It is impossible to trust in Empiricism. It furnishes no necessity, no universality, no "all", no "none." It cannot because no scientist is omniscient.

Can moral education be grounded in naturalism then? No. Empirical philosophy that repudiates revelation cannot provide any morals for anything whatsoever. So a Christian philosophy of education is grounded in the image of God, the God who gave that image, and the Bible which explains the revelation of God to men. Really, if God is banished from the education system, from society itself, how can society ask anyone to keep on living?

IDEALISM, PRAGMATISM AND EXISTENTIALISM

Philosophy means "love of wisdom." It is made up of two Greek words, *philo*, meaning love, and *sophos*, meaning wisdom. Philosophy helps teachers to reflect on key issues and concepts in education, usually through such questions as: What is being educated? What is the good life? What is knowledge? What is the nature of learning? And What is teaching? Philosophers think about the meaning of things and interpretation of that meaning. Even simple statements, such as "What should be learned? Or What is adolescence?" set up raging debates that can have major implications. For example, what happens if an adolescent commits a serious crime? One interpretation may hide another. If such a young person is treated as an adult criminal, what does it say about justice, childhood, and the like? Or if the adolescent is treated as a child, what does it say about society's views on crime?

Your educational philosophy is your beliefs about why, what and how you teach, whom you teach, and about the nature of learning. It is a set of principles that guides professional action through the events and issues teachers face daily. Sources for your educational philosophy are your life experiences, your values, the environment in which you live, interactions with others and awareness of

philosophical approaches. Learning about the branches of philosophy, philosophical world views, and different educational philosophies and theories will help you to determine and shape your own educational philosophy, combined with these other aspects.

When you examine a philosophy different from your own, it helps you to “wrestle” with your own thinking. Sometimes this means you may change your mind. Other times, it may strengthen your viewpoint; or, you may be *eclectic*, selecting what seems best from different philosophies. But in eclecticism, there is a danger of sloppy and inconsistent thinking, especially if you borrow a bit of one philosophy and stir in some of another.

If serious thought has gone into selection of strategies, theories, or philosophies, this is less problematic. For example, you may determine that you have to vary your approach depending on the particular learning needs and styles of a given student.

At various time periods, one philosophical framework may become favoured over another. For example, the Progressive movement led to quite different approaches in education in the 1930s. But there is always danger in one “best or only” philosophy. In a pluralistic society, a variety of views are needed.

Four General or World Philosophies

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.

Curriculum Philosophy

The purpose of education is primarily the development of skills, knowledge, processes, and attitudes necessary for the student to successfully function as a productive citizen in an ever-changing world. Education also recognizes the characteristics unique to each individual and provides a process for the development and expression of each student's unique abilities and talents.

In order to assure that graduates of the Chapel Hill-Carrboro City School District possess the skills and knowledge to have successful experiences in higher education, technical and vocational schools, and in the workplace, a curriculum and instructional model with measurable results for student learning will be designed and implemented throughout the system. As a standards-based model, the focus is on the results that each student achieves in meeting and exceeding state standards as well as the approved district standards and content objectives. Meeting these high performance standards will be accomplished by:

Recognizing and believing that all students are capable of achieving excellence in learning the essentials of formal schooling.

Allowing the instructional process to be adapted and modified to improve learning when appropriate.

Accepting the fact that schools can maximize the learning conditions for all students through a written and aligned curriculum, clearly-stated objectives; quality teaching, high expectations for all students to achieve, and pre-and post assessments that are aligned to the district's curriculum for the purpose of improving student learning; and Involving parents and the community as partners with the district to provide a safe, orderly learning environment, challenging curriculum, quality educational programmes, and successful learning experiences for each student.

PHILOSOPHICAL FOUNDATIONS

Based upon fundamental beliefs that arise from one's philosophy of Education, curricular decisions involve consideration of several topics and issues. Precisely for this reason, we consider philosophy one of the major foundation areas in curriculum. We shall explore several different philosophies of education that influence curricular decisions.

Philosophy and Curriculum

Studying philosophy helps us deal with our own personal systems of beliefs and values, *i.e.*, the way we perceive the world around us and how we define what is important to us. As philosophical issues have always influenced society and institutions of learning, a study of the philosophy of education in terms of Curriculum development is essential.

In essence, a philosophy of education influences, and to a large extent determines, our educational decisions and alternatives. Those who are responsible

for curricular decisions, therefore, should be clear about what they believe. If we are unclear or confused about our own beliefs, then our curricular plans are bound to be unclear and confusing. One important step in developing a personal philosophy of education is to understand the various alternatives that others have developed over the years. Here we shall look into the following four major philosophical positions that have, hitherto, influenced curriculum development.

Idealism

The doctrine of idealism suggests that matter is an illusion and that reality is that which exists mentally. It emphasizes moral and spiritual reality as the chief explanation of the world and considers moral values absolute, timeless and universal.

If we apply this view to education what would be the implications for the role of teachers and curriculum in education?

Obviously, teachers would act as role models of enduring values. And the school must be highly structured and ought to advocate only those ideas that demonstrate enduring values. The materials used for instructions, therefore, would centre on broad ideas particularly those contained in great works of literature and/or scriptures. Since it is based on broad ideas and concepts, idealism is not in line with the beliefs of those who equate learning with acquisition of specific facts from various Proponents of realism view the world in terms of objects and matter. They believe that human behaviour is rational when it conforms to the laws of nature and is governed by social laws. Applied to education, those ideas begin to reveal a second possible philosophy of education.

Realism

What kind of philosophy will that be? 'Realists' consider Education a matter of reality rather than speculation. Application, The paramount responsibility of the teacher, then, is to impart to learners the knowledge about the world they live in. What scholars of various disciplines have discovered about the world constitutes this knowledge. However, like the idealists, the realists too stress that education should reflect permanent and enduring values that have been handed down through generations, but only to the extent that they do not interfere with the study of particular disciplines. Clearly, unlike the idealists who consider classics ideal subject matter for studies, the realists view the subject expert as the source and authority for determining the curriculum.

Pragmatism

In contrast to the traditional philosophies, *i.e.*, idealism and realism, Pragmatism gives importance to change, processes and relativity, as it suggests that the value of an idea lies in its actual consequences. The actual consequences are related to those aims that focus on practical aspects in teaching and learning (Nash, 1995).

According to pragmatists, learning occurs as the person engages in transacting with the environment. Basic to this interaction is the nature of change. In this sense, whatever values and ideas are upheld currently would be considered tentative since further social development must refine or change them. For instance, at a particular period of time it was generally believed that the earth was flat which was subsequently disproved through scientific research.

To consider, therefore, what is changeless (idealism) and inherited the perceived universe (realism) and to discard social and/or perceptual change is detrimental to the overall development and growth of children. You can now visualize how pragmatism would have influenced the framing of curriculum.

Curriculum, according to the pragmatists, should be so planned that it teaches the learner how to think critically rather than what to think. Teaching should, therefore, be more exploratory in nature than explanatory. And, learning takes place in an active way as learners solve problems which help them widen the horizons of their knowledge and reconstruct their experiences in consonance with the changing world. What then might be the role of the teacher? The role is not simply to disseminate information but to construct situations that involve both direct experience with the world of the learner and opportunities to understand these experiences.

Having seen three basic philosophical positions that have influenced curriculum development, let us now look at the fourth one.

Existentialism

This doctrine emphasizes that there are no values outside human beings, and thus, suggests that human beings should have the freedom to make choices and then be responsible for the consequences of those choices. According to this philosophy, learners should be put into a number of choice-making situations, *i.e.*, learners should be given freedom to choose what to study.

It emphasizes that education must centre on the perceptions and feelings of the individual in order to facilitate understanding of personal reactions or responses to life situations. Of primary concern in this process is the individual. Since life is based upon personal meanings, the nature of education, the existentialists would argue, should be largely determined by the learner. Individual learners should not be forced into pre-determined programmes of study. Whatever the learner feels he/she must learn should be respected and facilitated by the system. An existentialist curriculum, therefore, would consist of experiences and subjects that lend themselves to philosophical dialogue and acts of making choices, stressing self-expressive activities and media that illustrate emotions and insights. The teacher, then, takes on a non-directive role. The teacher is viewed as a partner in the process of learning. As a professional, the teacher serves as a resource facilitating the individual's search for personal meaning rather than imposing some predetermined values or interests on learners.

Existentialism has gained greater popularity in recent years. Today, many educationists talk about focusing on the individual, promoting diversity in the

curriculum and emphasizing the personal needs and interests of learners. Here, perhaps, we can recall the philosophy that underlies the open distance education system. Learner-autonomy, which the existentialists seem to suggest, has been and remains the prime characteristic feature of the distance mode of teaching-learning. Because of the explosion in knowledge and tremendous growth in information technology, the curriculum of the past seems to be obsolete.

To plug the gap between the needs of the learner, the society and the curriculum content, rethinking in the area of curriculum development appears to be unavoidable. What might have been relevant in a particular situation need not necessarily always be so. In essence, social changes demand changes in the existing pattern of education. The inherent potentiality of the system of distance education enables it to accommodate and cater to these changes. It should be clear from the above discussion that by and large, in operational terms, both pragmatism and existentialism find ample expression in open distance education.

Each of the four major philosophies just described begins with a particular view of human nature and of values and truths, and then proceeds to suggest what such a view implies for curriculum development. Before we conclude our discussion on the philosophical foundations of curriculum, we should make note of a few educational philosophies in order to reinforce what has been said so far.

PHILOSOPHICAL FOUNDATIONS AND CURRICULUM

A philosophical foundation, like an architectural one, provides an underpinning for a larger structure. Its bricks and cinder blocks are basic concepts and assumptions that support a system of beliefs and practices. The support provided by a philosophical foundation is logical and conceptual, not physical: a foundation justifies the structure it supports. If we view scientific ethics as a system of rules, concepts, beliefs, and practices, then its foundation consists of basic principles and concepts that justify this system. My aim in this chapter is to explore the basic principles and concepts that underlie scientific ethics. I will argue that scientific ethics is founded both on concerns and goals internal to science and on societal norms. This two-tiered foundation supports six basic principles of research as well as other ethical principles that apply to science. I will also develop some policy implications based on this philosophical analysis.

Ethics: A System of Moral Rules

In approaching the topic of scientific ethics, it will be useful to first make a few remarks about ethics. A simple definition of ethics (or morality) might be as follows:

Ethics is a system of public, general rules for guiding human conduct (Gert, 1988). The rules are general in that they are supposed to apply to all people at all times and they are public in that they are not secret codes or practices. The rules guide conduct by forbidding, permitting, or requiring particular actions in

various circumstances (Fox and DeMarco, 1990). Philosophers have offered a wide variety of moral theories to justify moral rules, ranging from utilitarianism to Kantianism to social contract theory (Fox and DeMarco, 1990). Although there are some fundamental differences among various ethical theories, most of them support (or can be interpreted to support) roughly the same set of general principles (Beauchamp and Childress, 1979). Some of these are as follows:

The nonmalificence principle: Do not act in ways that cause needless injury or harm to others. The beneficence principle: Act in ways that promote the welfare of other people. The principle of autonomy: rational individuals should be permitted to be self-determining. The formal principle of justice: treat equals equally and unequals unequally.

Material principles of justice: Punish on the basis of desert. Distribute goods on the basis of need, merit, social contribution, effort, or equality.

From these general principles we can derive a variety of other rules, such as:

*Do not kill, Do not torture or maim, Do not steal, Do not lie or deceive,
Keep your promises, Don't cheat, Be fair, Do not deny people freedom,
Respect privacy.*

And of course many more principles can be derived from the ones mentioned here. Sometimes the same action will be supported by a variety of rules but sometimes the rules will endorse different actions, *i.e.*, they will conflict. For instance, if someone asks you if you like the new dish they have prepared and you do not, you may have to choose between telling them the truth and (possibly) hurting their feelings. You have a duty not to lie but you also have a duty not to harm, and in this case you cannot fulfill both duties at one. You must resolve this conflict. Since moral rules can conflict, they are what W.D. Ross (1930) refers to as *prima facie* rules (or duties). When conflicts arise, we have to decide which rule(s) to follow. Some of the ethical theories discussed by philosophers may recommend different ways to settle these conflicts, even though they agree on most of the basic rules.

Justifying Moral Rules: Reflective Equilibrium

Earlier I said that a philosophical foundation provides a justification. So what's the foundation of moral rules (or theories)? This is not an easy question to answer, in part, because our method of justifying moral rules, as many writers have noted, does not resemble our method of justifying scientific theories or hypotheses (Harman, 1977). Science uses the experimental method to justify its claims: in science we can conduct tests and experiments that provide empirical evidence or data to justify theories or hypotheses. But we cannot use this method in ethics.

Since the experimental method cannot be used in ethics, many writers have urged that we use the method of reflective equilibrium to justify ethical principles and theories (Rawls, 1971). According to this method, we use our considered (*i.e.*, unbiased, reflective) judgments (or intuitions) about what is (or would be) right or wrong, good or bad in particular situations as a data base.

We can then propose theories and principles intended to provide a coherent account of these judgments. The reflective part of the method comes in when we use these principles and theories to revise our original data, and modify our principles in light of the revised database, and so forth and so on. Reflective equilibrium is an ideal state in which we have carried out this process to the point where we are no longer revising our database or principles.

Although this method is accepted by many ethicists, some have objected to it on the grounds that it leads (or could lead) to moral relativism (Gert, 1988). It could be the case that two different societies reach equilibrium points characterized by radically different principles and databases. Hence, what is “right” or “wrong” would vary from society to society. Of course, other writers might use its relativistic implications as a reason for accepting the method (Herskovits, 1972). Although I have no intention of entering this thorny debate here, I’ll return to the relativism problem later in the context of scientific ethics.

Scientific Ethics

The general ethical code discussed above can be applied to many different practical contexts, such as law, medicine, sports, business, personal relationships, and of course, science. When the general code is applied to a particular area of human life, the resulting code is an institutional code. Institutional codes are not simply miniature versions of the general ethical code, otherwise they would be superfluous. An institutional code differs from a general ethical code in that it reflects the practical concerns and goals of members of a community, discipline, or profession. For instance, medicine is chiefly concerned with promoting the health of patients and safeguarding their welfare (Beauchamp and Childress, 1979). If a conflict arises between telling the truth and preventing harm, many physicians will decide to lie. In medicine, at least, truth is sometimes sacrificed for health (Beauchamp and Childress, 1979). Although institutional codes are sometimes represented by explicitly formulated professional or communal codes, such as the Hippocratic Oath or a university’s code of conduct, they cannot be identified with these explicitly formulated codes. The reason for this is that people may accept parts of an institutional code that are not found in explicitly formulated codes and people may pay little heed to many of the rules that are explicitly formulated (Gibbard, 1990). We can now arrive at a definition of scientific ethics:

Scientific ethics is an institutional code of conduct that reflects the chief concerns and goals of science. In this definition, ‘conduct’ refers to all aspects of scientific activity, including experimentation, testing, education, data analysis, data storage, data sharing, peer review, government funding, the staffing of research teams, *etc.*... It does not include conduct that does not have a direct bearing on science. ‘Science’ refers to academic science, not military or business science. Although academic science, military science, and business science share some common principles, they have different goals and concerns. These different goals and concerns give rise to different ethics.

In the military, national security is the primary goal, and secrecy is essential to achieving this aim. Secrecy is also important in business science in order to

promote its main goal, the maximization of profit. There has been much debate among philosophers about the aims of academic science, but clearly two of its chief concerns include the search for explanatory knowledge and true beliefs about the world (NAS, 1989). Since ethical rules in science should promote these goals, several of science's most important principles emerge. My list is not original, since some of these principles have been identified by other authors, including Jacob Bronowski (1956), Nicholas Rescher (1965), Sanford Lakoff (1980), David Hull (1988), and the National Academy of Science's Panel on Scientific Responsibility and the Conduct of Research (1992). However, my compilation provides a useful synthesis.

EDUCATIONAL PHILOSOPHIES

Although aspects of educational philosophy can be derived from the roots of idealism, realism, pragmatism and existentialism, a common approach is to provide a pattern of educational philosophies which derives from the major schools of philosophy some of which have been touched upon above. Here, we shall be looking into the following four educational philosophies for their implications in the area of curriculum development.

Perennialism

It advocates the permanency of knowledge that has stood the test of time and values that have moral and spiritual bases. The underlying idea is that education is constant, absolute and universal. Obviously, "perennialism" in education is born of "idealism" in general philosophy. The curriculum of the perennialist is subject-centered. It draws heavily on defined disciplines or logically organised bodies of content, but it emphasizes teaching learning of languages, literature, sciences and arts. The teacher is viewed as an authority in a particular discipline and teaching is considered an art of imparting information knowledge and stimulating discussion. In such a scheme of things, students are regarded immature as they lack the judgement required to determine what should be studied, and also that their interests demand little attention as far as curriculum development is concerned. There is usually only one common curriculum for all students with little room for elective subjects. According to this point of view putting some students through an academic curriculum and others through a vocational curriculum is to deny the latter genuine equality of educational opportunity. Such views appeal to those educators who stress intellectual meritocracy. Their emphasis is on testing students, enforcing tougher academic standards/programmes, and on identifying and encouraging talented students.

Progressivism

This emerged as a protest against perennialist thinking in education. It was considered a contemporary reformist movement in educational, social and political affairs during the 1920's and 30's. According to progressivist thought, the skills and tools of learning include problem solving methods and scientific

inquiry. In addition, learning experiences should include cooperative behaviour and self-discipline, both of which are important for democratic living. The curriculum, thus, was interdisciplinary in nature and the teacher was seen as a guide for students in their problem-solving and scientific projects.

Although the progressive movement in education encompassed many different theories and practices, it was united in its opposition to the following traditional attributes and practices: the authoritarian teacher; excessive dependence on textbook methods; memorization of factual data and learning by excessive drilling; static aims and materials that reject the notion of a changing world; and attempts to isolate education from individual experiences and social reality.

Although the major thrust of progressive education waned in the 1950's with the advent of "essentialism", the philosophy has left its imprint on education and educational practices of today. Contemporary progressivism is expressed in several movements including those for a socially relevant curriculum, *i.e.*, a match between subjects taught and student needs which is one of the theoretical bases of distance education.

Essentialism

This philosophy, rooted partly in idealism and partly in realism, evolved mainly as a critique of progressive thought in education. Yet, the proponents of essentialism do not totally reject progressive methods as they do believe that education should prepare the learner to adjust to a changing society. Thus, in essentialism learning should consist in mastering the subject matter that reflects currently available knowledge in various disciplines. Teachers play a highly directive role by disseminating information to students. According to this viewpoint, the main arms of the institution (be it a school or a college) get sidetracked, when, at the expense of cognitive needs, it attempts to pay greater attention to the social and psychological problems of students.

In recent years, the essentialist position has been stated vociferously by critics who claim that educational standards softened during the 1960s and early 1970s. The most notable achievements of the essentialists have been the widespread implementation of competency based programmes, the establishment of grade-level achievement standards, and the movement to reemphasize academic subjects in schools/colleges. In many ways, the ideas of essentialism lie behind attacks on the quality of education by the media and by local pressure groups, which includes, to a good extent, attacks on distance education.

Reconstructionism

It views education as a means of reconstructing society. The reconstructionists believe that as school/college is attended by virtually all youth, it must be used as a means to shape the attitudes and values of each generation. As a result, when the youth become adults they will share certain common values, and thus the society will have reshaped itself. As for the curriculum, it must promote new social, economic and political education. The subject matter is to be used

as a vehicle for studying social problems which must serve as the focus of the curriculum. The following gives you a view of the reconstructionist programme of education: critical examination of the cultural heritage of a society as well as the entire civilization; scrutiny of controversial issues; commitment to bring about social and constructive change; cultivation of a planning-in-advance attitude that considers the realities of the world we live in; and enhancement of cultural renewal and internationalism.

Stemming from this view, reconstruction expands the field of curriculum to include intuitive, personal, mystical, linguistic, political and social systems of theorizing. In general, the curriculum advocated by reconstructionists emphasizes the social sciences-history, political science, economics, sociology, psychology and philosophy-and not the pure sciences. The thrust is on developing individual self-realization and freedom through cognitive and intellectual activities, and thus, on liberating people from the restrictions, limitations and controls of society. The idea is that we have had enough of discipline-based education and narrow specialization, and that we don't need more specialists now, we need more "good" people if we want to survive.

Before we proceed further, let us ask ourselves a question. What insights do we gain from the discussion on the philosophical foundations of curriculum? Foundations of Curriculum Ideas about curriculum and teaching do not arise in a vacuum. As curriculum development is heavily influenced by philosophy, those involved in such planning should be clear about contemporary, dominant philosophy.

If we are unclear about our philosophy of education, our curriculum plans and teaching procedures will tend to be inconsistent and confused. This being so, we should be aware of the fact that development and awareness of a personal philosophy of education is a crucial professional responsibility. Further, we need to be constantly open to new ideas and insights that may lead to a revision or refinement of our philosophies. Our position should be that no single philosophy, old or new, should serve as the exclusive guide for making decisions about curriculum. What we, as curriculum specialists, need to do, is to adopt an eclectic approach, in which there is no emphasis on the extremes of subject matter or socio-psychological development, excellence or quality. In essence, what we need is a prudent philosophy-one that is politically and economically feasible and that serves the needs of students and society. It is here that open distance education comes forth with its promises for the future.

PHILOSOPHY AND CURRICULUM

Three basic educational approaches competed in the second half of the 20th century to shape our views on WHAT we should teach and HOW we should teach it...

Those approaches were:

- *Perennialism:* A teacher-centred philosophy that focuses on "great books" the hope of impart the culture's enduring themes to students. The goal is to develop the ability for rational thought in students.

- *Essentialism*: A teacher-centred, back-to-basics approach to education that stresses the three R's and emphasizes the remembering of facts.
- *Progressivism*: A student-centred philosophy that attempts to interact with the real-world concerns and experiences of students. Classrooms are more democratic in governance and learning is more participatory and experimental than in either Essentialism or Perennialism.

Most teachers tend to be eclectic - they draw from more than one of these approaches. And I fall into that same category; I'm an eclectic, I suppose.

Adjectives serve as better answers than do nouns in describing what the curriculum of education should be like. The content of the curriculum should be flexible, responsive to the changes of society. The content of the curriculum should be sympathetic to the values and limitations of the students. My own experience leads me to believe that every life is richer if the individual has read Kafka and Steinbeck, Aeschylus and Blake, Camus and Hemming way. But I view the Great Books approach to education today as more of a misguided effort to preserve a cultural time frame than anything else - to halt (or at least slow) cultural change.

I believe that reading (and literacy) is essential; it is the medium of later instruction. To the extent that an emphasis on basic skills has become exclusive, to the extent that a concern with math and language skills has crowded out music and the arts, the emphasis on basic skills has become a destructive force. But kids who show up at school should learn to read. And as much as I hate to agree with George W. Bush about anything, they should learn to read early. They should learn to do arithmetic and gradually progress to more abstract forms of math. They should be introduced to the various formal genres of language - to poetry and letter writing, the short story and the novel. When Piaget allows, they should be introduced to epistemology and taught to ask "but how do I know that." And of course they should be given an understanding in social studies classes of how our society works (civics) and why (history). And there is science. But none of these core classes should be allowed to displace completely the arts. And an understanding of the importance of the role of creativity in fields like math and grammar needs to be maintained

A philosophy of education should include discussion of several basic components. Central issues should include the purpose of education, the nature of the curriculum, the place of students, and the role of teachers.

Education in America has no purpose - at least no one, singular, canonical purpose. The purposes of education are multiple and interwoven. Those purposes change with age, environment, and the peculiarities of individual students so that even within a specific classroom the primary purpose of schooling for this child may be one thing and the primary purpose for that child may be yet another. In the case of any given child, the parents' purposes for sending the child to school may differ significantly from the purposes of the educational agency requiring the child's presence. And in as much as the provision of educational services is a joint venture that usually involves at least three different government

agencies (a local city or county, a state, and the federal government) the purposes of the various agencies taking part in this partnership may vary significantly, or even be at odds.

For all parties involved, the purposes of education change significantly with time. Kindergarten has a unique set of priorities for everyone engaged in the educational process. The nature of those priorities change significantly by middle school, are additionally altered in high school, and are further renovated in the college setting.

I am not avoiding the question. I am simply acknowledging its complexity - and the ambiguity of the semantics involved. "What is the purpose of education?" The answer depends on who you are, and on whether you're providing it or receiving it. And that is what the answer should depend upon. Because somewhere high on the list of the many and various purposes education serves in our society, the preservation of pluralism, the equipping of those who are somehow different in our society to maintain their membership in it nonetheless, holds a now prominent (and hopefully permanent) spot.

My view of the purpose of education (now, at the age of 46, with three degrees and 90 some odd graduate hours already under my belt) is mercenary: I continue to participate in education as a student for economic reasons. I'm paying through the nose for out-of-state tuition because doing so keeps me my job. That's not very philosophical; nor is it a complete picture. I have three degrees and 90+ graduate hours because I like going to school. And if I came into some large and unexpected inheritance this week (or won the lottery), my new financial security would probably only result in a change of major, not in a change in my status as a student. In the meantime, I am compelled to pursue professional development goals; I would prefer to have the time and resources to use education as tool in the hunt for self-actualization.

Through the various carrots and sticks available to society from universal schooling, public health in America has been greatly advanced in the last century; I can't think of a more reasonable agency to carry out this service. The decline of child mortality in America that has resulted from every parent knowing that eventually they'll have to produce that shot record at the door of a school house may by itself be make the cost of schooling in America worthwhile.

Without establishing a timeline for what services (or mandates) entered the public school system at what point in time, I tend to just push the blame for all of them off on Lyndon Johnson. He started the modern trend, at least, of providing services that were not directly educational in nature. Among my favourite is free and reduced lunch. It serves society (and students) with a safeguard against poverty. Children are disproportionately impacted by poverty. The free and reduced lunch programme has served to keep large parts of America turning into scenes from a Charles Dickens novel. And the school system has been the tool society used to achieve that.

Another example has to do with the treatment of people with disabilities in our society. Forty year ago America may have been far above much of the world

in the treatment of disabled individuals; but families were still largely on their own in dealing with and supporting their disabled members. Today, disability laws in America require that children with disabilities be sought out early during the preschool years, and that services be provided under many circumstances to families with disabled children. This is part of the reason the life expectancy of a person with Down's Syndrome has more than doubled in the last few decades. And it is the public school system that at least seeks out identifies the children with disabilities and, often, provides the actual services. The quality of life for the retarded, the hearing impaired, the visually impaired, and those with other disabilities has been greatly improved as a result. That safeguard against neglect of the disabled is part of what makes us a civilized society.

Some socialization also takes place, and I would argue that much of the weight of socialization in American society falls upon the public school system. It is where kids learn to stand in line in the cafeteria the way they will have to stand in line at the Department of Motor Vehicles of the Post Office later in life. It is where they learn that you can't hit people just for what they say (even if your father says you can). It is where they learn not to steal, not to bite, how to act in groups, and how to relate to authority.

Of course, some of the safeguards provided by the school system are in fact educational, or academic, in nature. The school system should infuse a minimal level of literacy and math skills into all the children who come through its doors. And there are economic safeguards - the hope that schooling will provide employability skills at some minimal level to the majority of students. Society currently disagrees about what that minimal level of literacy is; perhaps there has never been a consensus - just an idea. And the employability skills need to survive in society are rapidly changing. It becomes easy to lose sight of the many other things the school system does when success with the educational goals becomes difficult to measure.

These things are as they should be in a society with our resources (in my philosophical view of education, or at least of schooling). Society should have an institution that ensures that public health measures are being instituted in small children. Society should have an institution that aids parents in socializing their children. Our society should have a mechanism for identifying individuals with disabilities early in life and ensuring that they receive services. The purposes of education should be multiple and complex in a society as complicated as ours. And individuals and their families should be able to avail themselves of the system for their own purposes while society still achieves its own in some measure. Educational institutions must resign themselves to the fact that those who come through their doors have their own motives and values. And in America that's allowed.

In my philosophy of education, the purpose of schooling is to serve multiple ends for both the learners and the providers. There is no singularly important or outstanding particular purpose for education in America that stands alone. And education, or more properly schooling, has become an institution that is central to the core of our society and legitimately serves a variety purposes.

Students should be active participants in the learning process. I believe in cooperative learning, in a process where students learn together. And I believe in participatory learning. Education, especially in the early grades, is not about knowledge - facts and figures, dates and names. It is about skills. Students learn the three R's mostly through exercising, practicing particular skills. You don't tell someone how to read. You introduce them to the process and allow them to practice it in ways that build strength in it.

Teachers should be expert guides, not bosses or masters. The rigidity of the relationship and the formality of the two roles, student and teacher, will vary from subject area to subject area and from grade to grade. The idea that we can make generalizations about kindergarten classroom relationships that will still hold true in the tenth grade is probably a naive desire to oversimplify theory and philosophy.

If I must generalize about teaching situations in a subjunctive mode, I'd prefer a student-centred classroom where the teacher aids in the discovery process (not in construction of "reality," since reality is already here and is pretty real without the help of my students) and where the teacher acts as a coach in the development of skills. I'd prefer a classroom where the students felt as few restrictions as possible within the requirements of the learning process. And I'd prefer a classroom where learning, not teaching, was the central focus.

The higher the student-teacher ratio, the less like this a classroom becomes. And in my mind the single biggest factor in the quality of education and the success of the educational process is the most expensive factor - personnel. We can tinker with curriculum. We can alter pedagogy. We can think of new ways to measure success (and accountability). We can require that the one teacher we have (in a room where two are needed) be better trained. But the solution that is most likely to work is the solution that no one wants to pay for: more teachers per school.

4

Approaches to Career Guidance and Counsellors

Career guidance refers to services and activities which assist individuals, of any age and at any point throughout their lives, to make educational, training and occupational choices and to manage their careers. Such services may be found in schools, universities and colleges, in the workplace. It may take place individually or in group, and may be face-to-face or at a distance. It includes career information provision, assessment and self-assessment tools, counseling interviews, career education programmes. Guidance workers often encounter individuals having very little idea about the skills which they have and the career related to the skill. Sometimes, sufficient time devoted to the early stages of an interview, finding out about the individual. There are many approaches to career guidance as Computer-aided guidance. Others are facial expression, especially glints in the eyes, can be used to know levels of interest in particular types of work. Often, the client will be interested in more than one. Individual judgement is required to look at likely interactions between traits, and selecting the appropriate one.

SOURCES OF CAREER INFORMATION

We can collect career information from a variety of sources. In this multi-media approach one has to be quick in approaching and consulting the source of career information because each source is experiencing very rapid changes regarding career information *i.e.*, addition and deletion of various informations. One can approach the following sources of career informations.

CAREER LITERATURE

The first step into the world of careers is consulting encyclopedia. Various encyclopedias are available which deal deeply the various areas of interest. Traditionally, careers literature could not inspire much, but recently it has become a mainstream school subject. The importance of realistic guidance has been recognised. Due to such developments, the careers literature has begun to benefit. Career books are written and designed with the understanding that there is a lot of more to careers than entry qualifications and examinations.

Careers literature includes different kinds of books. While choosing or selecting these books for careers or higher or further education, some important criteria should be taken into account. Such criteria are as follows—

- *Factually Accurate:* Career books specifically intended for young people should be factually accurate, but lively and well-presented.
- *Describe Work Involved:* A good career book should describe work involved and also introduce the reader to people who do the job in question.
- *Explain Qualities Needed:* These books should explain the kinds of qualities (intellectual personal, practical, and so on) needed to do a particular job and deal with the less attractive features as well as attractive ones.
- *Written in Understandable Language:* These books should be written in language understandable to the appropriate age group and level of ability.
- *Should use Charts and Illustrations:* The career books should use charts and illustrations to illuminate a text, underline a point, or make it easier for a younger reader to understand.
- *Must be up-to-date:* The career books must be up-to-date. No career book is of much use today if it is more than three or four years old.

Teenagers should not be discouraged from using other books. Careers should not be treated as watertight compartments.

NEWS PAPERS AND MAGAZINE ARTICLES

Some of the best informations to individual career, or areas of employment, are not specifically written as careers literature at all. Newspaper, magazine articles, surveys and reports also help to provide a more surrounded picture. Literature from prospective employers should be treated with caution and never used as a first introduction to a specific career. Teenagers must learn to examine this critically against their other reading.

CAREERS BOOKS

There are some clearly defined groups of careers books. These are general reference works, intended either for quick reference or for going into details *e.g.*, Careers Guides, a careers guide for woman and men, British qualifications.

There are books for general background reading, *e.g.*, which career for you and Your choice series to three booklets, for thirteen, fifteen and seventeen-plus age groups, 'If I were a-' series of occupational leaflets 'working in — 'series of single sheet tabloid-newspaper style poster booklets. 'My life and My work' series, 'The professions' published by David and Charles, careers information sheets. Career Outline series, covering brief information on individual careers which are frequently not covered elsewhere.

DIRECTORIES AND CAREERS

There are many and varied individual titles, *e.g.*, Directory of Careers Publications edited by George Hope, published by the Graduate Press. There are also individual directories to give the right direction to your career planning.

Some of the career directories published by SAP (Student Aid Publications), New Delhi are:

- *All India Directory of Foreign Language Institutes and Courses:* This directory contains the contents like world languages, career for language professionals, undergraduate part time language programmes of study in Jawaharlal Nehru University, University of Delhi. Jamia Milia Islamia, Central Institute of English and Foreign Languages. Bhartiya Vidya Bhawan, YMCA New Delhi, Max Mueller Bhawan, *etc.* This directory leads with the all aspects of world languages such as English, Hindi, Urdu, Spanish, French, German. Punjabi. Japanese, Chinese, Persian, Arabic, Polish, Czech language, *etc.* These institutes/ universities run different courses in all world language leading to different certificates, diplomas, graduate, postgraduate and doctoral degrees.
- *All India Directories of Library and Informations Science:* This career directory tells us about institutes, courses and jobs. It is also published by SAP, New Delhi. It is a handbook for students looking for careers in Library and Information Science. It introduces with various aspects such as librarianship as career, institutes and courses, scholarships, courses for study in India and abroad, job profiles, *etc.*
- *Directory of Management Institutes, Courses and Jobs:* It is also a comprehensive handbook of information about admission to regular, full-time, part-time, correspondence courses in Management at degree, postgraduate diploma and research levels offered by IIMs, Universities and management schools/institutes. It is also published by Student Aid Publications, New Delhi. Such type of directory also deals with the aspects such as career in professional management, preparing for CAT (Common Admission Test).
- *Career Opportunities in Travel and Tourism industry:* This directory makes us aware of Indian Tourism Industry *i.e.*, economic gains and social gains from tourism career opportunities as regional guides. It also elaborates about institutes and courses in travel and tourism, hotel

management colleges/institutes offering undergraduate courses in hotel and catering industry, Indian Railways and jobs offered by Indian Railway. Jobs for graduates and 10+2 in Railways, Civil Aviation, flying-training, flying clubs, jobs of air-hostess, air-line ticketing, sample job profiles, *etc.*

- *All India Directory of Biotechnology*: This directory highlight the growing industry of Biotechnology. It enlists about undergraduate and postgraduate courses in biotechnology and related disciplines, *e.g.*, B.Sc. (Genetics, Microbiology, Biochemistry. Biophysics, Microbiology, Industrial Biotechnology. Industrial Microbiology). MSc. (Veternity, Forestry” Biotechnology, Agriculture, Marine Biotechnology. *etc.*) Also this directory contains informations about doctoral programmes, awards and scholarships. Biotech Industrial Training Programme, Important-Centres/Departments of Biotechnology and related fields, Biotechnology Information System, Addresses of Universities offering Biotech Courses.
- *Information about Study Opportunities Abroad*: It is also a comprehensive handbook of basic information on study opportunities, financial aid, scholarships, *etc.*, available in different countries such as Australia, USA, Britain, Canada. Japan, New Zealand. Germany, and France. This book can also be helpful in choosing career abroad.
- *Directory of Scholarships*: This directory explains us about the provisions of scholarships for undergraduates and graduates for study in India and abroad, *e.g.*, Sports Talent Search Scholarships, Talent Search Scholarship Scheme, Mohindra All India Talent Scholarships, Scholarships by the Governments of other countries *i.e.*, Australian Government Scholarships, Belgain Government Scholarships, Chinese, Japanese, Polish Government scholarships, *etc.* Similarly, there are other scholarships described in it such as scholarships for science students under CSIR scheme, Junior Research Fellowships by ICAR, New Delhi, and Scholarships by Indian Institute of Bankers and National School of Drama, ONGC Scholarships, ITC overseas scholarships. Hence, there is a lot of information regarding various scholarships at different levels. This book deals with the scholarships offered by government organizations, various foreign government, by trusts, fellowships abroad.

Similarly, there are many other directories which can provide informations regarding various careers.

CAREER SCHEDULING

Career scheduling is a lifelong procedure, which comprises choosing an job, getting a job, rising in our job, perhaps changing careers, and eventually retiring. We will focus on career choice and the procedure one goes through in selecting an job. This may happen once in our lifetimes, but it is more likely to happen many times as we first describe and then redefine ourselves and our goals.

Career development and the career scheduling procedure contain a number of specific steps that help to identify personal skills and attributes. Finding out how those skills can be utilised in the job market is accomplished through researching a number of career meadows that are of interest to you and then through gaining experience in those meadows and/or speaking to people currently working in the field. The career scheduling procedure is comprised of four steps. Whether or not you choose to work with a professional, or work through the procedure on your own is less significant than the amount of thought and power you put into choosing a career. Career scheduling means know in relation to the yourself, explore your options, and create decisions and move towards your goal.

Self

Evaluate who you are as a person. This involves taking a personal inventory of which you are and identify your individual values, interests, skills, and personal qualities.

What creates you tick as a person? You will look at those personal attributes under a microscope and come up with key qualities you can identify and use in your search for the perfect career. Career assessments may be required to promote a better understanding of personal attributes and skills. The individual should gather information in relation to the oneself. That is self assessment in conditions of their interests, values, roles, skills/aptitudes, preferred environments, developmental needs and their realities.

Options

The individual should be able to explore the several occupations in which they are interested. The exploration should be in each and every field the individual is interested and keen. After the region of job is chosen, the research or a survey on industries and labour market should be done to see in which they would like to work. Once the individual is clear in relation to the specific information on the region to be chosen, he/she can go in for part time work, internships and can also go in for volunteering jobs or opportunities.

Match

After the option is clear to the individuals, they will be able to identify the possible occupations and evaluate the opportunities within that job. The individual can explore the alternatives accessible, and therefore chose both a short term and extensive term option.

Action

The individuals in order to reach and achieve their goal have to explore and investigate the sources for additional training and education. They would have to develop a job search strategy, write an effective resume, gather information concerning company and prepare themselves for job interviews.

INTERRELATION FLANKED BY COUNSELLING AND CAREER SCHEDULING

Career scheduling is a procedure in which an individual decides and chooses an job of his/her interests with the help of counsellor. Counsellor helps the individual to realise, explore and analyse within themselves, their interest and their capability.

Career counselling is an interactive procedure through which counsellors and clients swap and explore information concerning clients' backgrounds, experiences, interests, abilities, self esteem, and other personal characteristics that help or inhibit their work readiness and career scheduling. Career counselling is a systematic approach to providing information and advice to clients in such regions as outreach programmes, training, internships, apprenticeships, and job placement. Although the career counsellor's primary concern is the client's career development, counsellors also may give screening and referral services to employers. Counsellors use information gathered through assessment to understand and respond to clients' needs and concerns. Clients use this information to understand themselves better, clarify their goals and perspectives, and create plans for the future.

Counsellors give individuals and groups with career and educational counselling. Counsellors use interviews, counselling sessions, interest and aptitude assessment tests, and other methods to evaluate and advise their clients. They also operate career information centres and career education programmes. Often, counsellors work with students who have academic and social development troubles or other special needs.

The procedure begins with self assessment. Steps involved through counsellor in a Career Scheduling Procedure are:

- *Step One: Self Assessment:* The first and foremost step in career scheduling is to know and assess yourself. You need to collect information in relation to the yourself while deciding in relation to the scrupulous career option. You necessity analyse your interests, abilities, aptitudes, desired lifestyle, and personal traits and then revise the connection flanked by the career opted for and self. Self assessment involves the secure examination of core interests, personality traits, skills, values, and beliefs. These are all significant variables in the decision-making procedure; they reflect your innermost needs and desires, and, mainly importantly, will lead you to favour some occupational meadows in excess of others. Once self assessment is complete, you may begin generating and exploring a wide range of career options. Through obtaining information, you will be able to sort through your initial list of occupations and reduce the options to your mainly favoured ones. To focus on the mainly appealing career option, you need to access detailed information through engaging in a more rigorous research Endeavour. This step involves exploring the options on your list through obtaining occupational information, such as

education and training required to enter into the field, job tasks, and salary potential. It is at this point that you will be ready to decide on the mainly promising career option that matches your profile mainly closely and that affords you the greatest chances of succeeding. Stay in mind that it is also significant to identify a few back up choices. You will then set up an action plan that will outline the after that mainly crucial steps for you to take in meeting your educational and/or occupational goals. Finally, evaluate the outcomes of your efforts and determine whether you are indeed on the right path. If you think the educational and/or occupational path decided upon earlier is not appropriate, at this point, you may go back a step or two and decide on an alternative, and more personally satisfying, course of action.

- *Step Two: Goal Setting:* Set your goals according to your academic qualification, work experience, priorities and expectations in life. Once your goal is recognised, then you determine the feasible methods and objectives how to realise it.
- *Step Three: Academic/Career Options:* Narrow your common occupational direction to a scrupulous one through an informatory decision making procedure. Analyse the several career avenues through keeping in mind your present educational qualification and what more academic career courses you need to acquire for it.
- *Step Four: Plan of Action:* Recognise those industries and scrupulous companies where you want to get into. Create the plan a detailed one so that you can determine for how several years you are going to work in a company in order to achieve maximum success, and then switch to another. Decide where you would like to see yourself after five years and in which location. If you are looking for career in education, then you necessity research in relation to the several leading companies and industries and abroad to get into the best company.

DECISION MAKING

A decision is a choice flanked by two or more alternatives. If you only have one alternative, you do not have a decision. Decision making can be regarded as the mental processes (cognitive procedure) resulting in the selection of a course of action in the middle of many alternative scenarios. Every decision making procedure produces a final choice. The output can be an action or an opinion of choice.

Problem solving and decision-making are significant skills for business and life. Problem-solving often involves decision-making, and decision-making is especially significant for management and leadership. There are processes and techniques to improve decision-making and the excellence of decisions. Decision making is more natural to sure personalities, so these people should focus more on improving the excellence of their decisions. People that are less natural decision-makers are often able to create excellence assessments, but then need to be more decisive in acting upon the assessments made. Problem-solving and

decision-making are closely connected, and each requires creativity in identifying and developing options, for which the brainstorming technique is particularly useful. A high excellence decision comes with a warrant: a guarantee. Not a guarantee of a sure outcome keep in mind this is the real world we're talking in relation to the, and there are sure things that presently aren't knowable until after they happen—but a warranty that the procedure you used to arrive at a choice was a good one. This level of confidence implies a procedure: a set of steps and rules that give an assurance of thoroughness and rigour. This means breaking decisions down into component parts and doing one thing at a time.

With a procedure or framework, you have the mechanism you need to warrant the excellence of your own decisions. Perhaps more importantly, you also have a general language and set of mental models that creates conversations in relation to the decisions more efficient and effective. This general understanding of decision processes, criteria, and roles avoids several of the general organisational decision traps, allowing people in your organisations to spend their conversational energies on creating better alternatives and validating assumptions and ultimately warranting their own decisions. The framework we use for breaking down and working decisions of virtually any size and complexity begins with two big ideas: declaring a decision and working a decision.

Declare a Decision

- *Frame the Problem:* What are you deciding and why? What shouldn't you be deciding and why? What's not in the box is as significant as what is. Without a good definition of the problem or opportunity to be worked, there is no possibility that you'll reliably reach a high excellence decision. Frames are mental structures we make to simplify and organise our lives. They help us reduce complexity. That's the good news and the root of another set of troubles. The method people frame a problem greatly powers the solution they will ultimately choose. And the frames that people or organisations routinely use for their troubles control how they will react to approximately everything they encounter."
- *The Right People:* If you're a single actor, or hold all the prerogatives of a dictator, this one is easy. In other cases, you'll want to put some thought into declaring who needs to be involved in what steps of this decision. Too few, or miss some, and you risk the troubles of rework, low adoption rate and poor buy in. Too several too much inclusion and you invite the possibility of an unnecessarily painful or drawn out decision procedure.
- *The Right Procedure:* It would depend on the decision situation. Making a high excellence decision doesn't have to be time consuming. In some cases, the best procedure might presently be a coin toss or relying on some rules of thumb. In other cases, the only method to work a decision is to really work it, and that will take time.

This element of declaration pulls the frame and people jointly into a coherent whole that will govern how you will cause this decision through.

Work a Decision

- *A Complete Set of Alternatives:* The more options you generate, the greater your chance of finding an excellent one. “Collectively exhaustive” means that the alternatives you’re considering fill the frame: a rational observer would conclude that you’ve thought of everything that matters. “Mutually exclusive” means that the alternatives are unique and dissimilar from each other: they’re not presently restatements of the similar choice.
- *Values against which to create Tradeoff:* Values describe your preferences in the middle of alternatives. They are your criteria. Values can be expressed through “attributes.” Attributes are characteristics of the outcomes that we discover desirable or undesirable. They typically happen in excess of time and may have some degree of uncertainty associated with them.
- *Information that describes the value of each alternative:* Good decision making requires not only knowing the facts, but understanding the limits of your knowledge. The mainly valuable insights are often established in exploring uncertainties and “disconfirming” information.

A high excellence decision procedure highlights the frame, potential alternatives, and key assumptions that drive value. This allows leaders to spend their time declaring the right decisions, providing a set of general criteria, and testing the key assumptions of each decision.

HOLLAND’S THEORY OF CAREER DEVELOPMENT

The Holland Codes represent a set of personality types described in a theory of careers and vocational choice formulated by psychologist JOHN L. HOLLAND. Holland’s theory argued that “the choice of a vocation is an expression of personality” and that the six factor typology he articulated could be used to describe both persons and work environments. His model has been adopted by the U.S., Department of Labour for categorizing jobs relative to interests.

The Holland Codes are usually referred to by their first letters: RIASEC. He presents his theory graphically as a hexagon. The shorter the distance between their corners on the hexagon, the more closely they are related. Holland’s theory of career guidance is based on four basic assumptions. The first assumption is that most people can be characterized as one or a combination of six personality types. Second, the theory assumes that the work environment can be classified into the same six categories of personality.

Third, the theory assumes that people seek out environments compatible with their personality types. And, fourth, the theory holds that particular behavioural patterns emitted in any environment are determined by personality and environmental types. The six personality and work environment types described by Holland are as follows:

- *Realistic*: Working with your hands, tools, machines, and things; practical, mechanically inclined, and physical. *viz.* agriculture, computer engineer, basket ball player, chef, Gardner, martial arts, pilot etc
- *Investigative*: Working with theory and information, analytical, intellectual, scientific. *Viz.* lawyer, statistician, surgeon.
- *Artistic*: Non-conforming, original, independent, chaotic, creative. *Viz.* actor, writer, dancer.
- *Social*: Cooperative environments, supporting, helping, healing/nurturing. *Viz.* psychologist, professor, social worker, physician.
- *Enterprising*: Competitive environments, leadership, persuading. *Viz.* public relation, administration, journalism, marketing, management.
- *Conventional*: Detail-oriented, organizing, clerical. *Viz.* proof reader, copy editing, clerk, librarian.

BURNOUT AND CAREER GUIDANCE

MEANING OF BURNOUT

First let us discuss about the concept of burnout. What is the meaning of the term burnout? Burnout is a psychological term for the experience of long-term exhaustion and diminished interest. It should not be looked as a disorder but as Problems related to life-management difficulty. The well-studied measurement of burnout in the literature is the Maslach Burnout Inventory. Maslach and her colleague Jackson first identified the construct “burnout” in the 1970s, and developed a measure that weighs the effects of emotional exhaustion and reduced sense of personal accomplishment. This indicator has become the standard tool for measuring burnout in research on the syndrome. The Maslach Burnout Inventory uses a three dimensional description of exhaustion, cynicism and inefficacy.

Many theories of burnout include negative outcomes related to burnout, including job function, health related outcomes, and mental health problems. The term burnout in psychology was coined by HERBERT FREUDENBERGER in 1974. Psychologists Herbert Freudenberger and Gail North gave 12 phases of burnout, which are not necessarily followed sequentially:

- A compulsion to prove oneself
- Working harder
- Neglecting one’s own needs
- Displacement of conflicts
- Revision of values
- Denial of emerging problems
- Withdrawal
- Behavioural changes become obvious to others
- Depersonalization
- Inner emptiness
- Depression
- Burnout syndrome

The signs can vary from individual to individual, but the following are some universal indicators that one can use to determine if career burnout is occurring.

- *Depression*: Feelings of despair and sadness that last for weeks or months usually signal that something in your life is not working like it should and is cause for an investigation into the cause – potentially your job.
- *Lack of energy*: If individual experience constant fatigue throughout the day.
- *Lack of desire*: If an individual find that he just don't care if he is successful or not it's a warning that the individual may have become burned out.
- *Decreased productivity*: If the productivity of an individual is decreased and he is not coming up to the desired expected result.
- *Increased absences and/or tardiness*: If an individual finds every opportunity to skip out on work.
- *Boredom*: Occasional boredom in one's career is completely normal; however, pervasive feelings of weariness and dreariness are not and are an indicator of potential burnout.
- *Anger/resentment in workplace*: Frequently lashing out at coworkers and/or supervisors is unacceptable under any circumstance. This behaviour deserves immediate attention due to its potentially abusive nature.
- *Sleep problems*: Insomnia or occasional fatigue can happen to anyone but are a cause for concern if they become constant and a part of your everyday life. Sleep disturbances are your body's way of saying it is overworked.

COPING WITH BURNOUT

There are a variety of ways that both individuals and organizations can deal with burnout. In his book, *Managing stress: Emotion and power at work*, Newton argues that many of the remedies related to burnout are motivated not from an employee's perspective, but from the organization's perspective. Let us now discuss some of the common strategies for dealing with burnout.

Organizational Aspects

- *Employee assistance programmes (EAP)*: Employee Assistance Programmes were designed to assist employees in dealing with the primary causes of stress. Some programmes included counseling and psychological services for employees. But now a days it is less utilized as compared to stress management training.
- *Stress management training (SMT)*: Stress Management Training (SMT) is employed by many organizations today as a way to get employees to either work through stress or to manage their stress levels; to maintain stress levels below that which might lead to higher instances of burnout.

Individual Aspects

- Problem-based coping-Individual can cope with the problems related to burnout and stress by focusing on the causes of the stress. This type of coping has successfully been linked to reductions in individual stress.
- Appraisal-based coping-Appraisal-based coping strategies deal with individual interpretations of what is and is not a stress inducing activity.

CAREER COUNSELLORS

Career counsellors should have specialized training in career counselling and career development. They may also have additional training in personal counselling as well as in group counselling.

They may facilitate career development groups for students or counsel students individually.

Counsellors can assist students in various areas. Some examples include increasing self-awareness, decision-making, goal-setting and establishing a plan of action.

Career Advisors

Career advisors should have specialized training and be able to provide specific information to individuals such as how to put together a résumé and cover letter, what to expect in a job interview, how to find a job, and how to use the resources in the career counselling centre. They may conduct workshops about these topics to groups of students as well as to advise students individually.

Peer Advisors

Peer advisors are student volunteers that have been trained to assist others in obtaining the information that they need. They are informed about all of the centre resources available and are able to provide guidance in how to use the resources and which materials might be most useful for each student coming into the centre. Peer advisors are also able to help individuals with low literacy skills to obtain the information that they need.

Receptionist

A receptionist should be available to answer questions, arrange individual appointments for career counsellors or career advisors, and to register people for groups or workshops.

LINKS WITH THE COMMUNITY

A career counselling centre needs to have links with the community. There are various kinds of links involving liaison with schools, employers, alumni, family and personal friends.

For example, alumni may be invited to speak to current students about their career paths. Another example includes inviting parents to come to the university

to take a tour of the career counselling centre or to take part in a meeting with their son or daughter and the career counsellor. Liaising with potential employers is a key role of many career counselling centres in order to assist students to obtain work during their training or after graduation. There are many ways to build links with the community and this community involvement enriches the experience of students.

Parents, Extended Family, and Personal Friends

Parents and other family members can be an important source of support for students making career decisions. Family members can be actively involved in assisting with career choices. Personal friends are also possible resources for students and can help provide support and feedback.

High Schools and Elementary Schools

Another way of linking with the community is to visit high schools and elementary schools to present information about career counselling and the various occupational options that are available to students.

Outreach Workshops and Presentations

Workshops can be conducted in the community in order to reach a greater number of people to teach and inform them about topics related to career development. Practical information may be disseminated this way such as hands-on workshops to show people how to create a resume or a discussion of the kinds of questions that may be asked in an interview.

Recruiting

Employers may be interested in advertising jobs and recruiting students while students are still pursuing their post-secondary training. Employers may wish to post jobs available and to conduct interviews at the campus. This process is beneficial for both the employers and the students in obtaining a complementary match of employer and employee.

The employers have the opportunity to select from a number of eligible candidates and students have a chance to apply for various work positions before completing their training.

WORK EXPERIENCE

Links with the community can also be established through various types of work experiences. Ideally, these experiences would be complementary to the educational programmes that students are involved in and would allow students to incorporate their knowledge from classes into the workplace.

These work experiences might include co-operative programmes, apprenticeship, job shadowing, volunteer work or mentorship. Another area where students might obtain information about different types of work is through job fairs.

Co-operative Programmes

Co-operative programmes are a joint venture between a post-secondary institution and an employer so that the student engages in course work followed by a work experience with an employer in the community. This work may be paid or unpaid and it may last from several days to several months. The work experience is connected to the students' area of study. After the work experience, the individual usually continues with more course work. At the end of his/her education, he/she has both education and work experience to offer future employers.

Apprenticeship

Apprenticeship is typically a formal arrangement where a student must pursue a particular amount of supervised work experience along with educational training before he/she receives the certification to practise in a specific occupational area. It is similar to a co-operative programme but a co-operative opportunity is typically optional for students while apprenticeship is usually mandatory. For example, fields such as auto mechanics often require apprenticeship.

Job Shadowing

Job shadowing is helpful when students are exploring whether or not they might like a specific type of job. When a person job shadows, he/she accompanies someone working in a job to better understand the kinds of tasks that they do throughout a day. The person might assist with the work or observe the work that is done.

Volunteer Work

Volunteer work is unpaid work and it is usually done on a part-time basis. It is useful for those individuals who have had very little work experience in the past. It is also helpful for people who are considering entering a particular field of work and would like to gain some experience in that area. Other people might participate in volunteer work in order to contribute to their community or to help a cause that they believe is important. Sometimes, volunteer opportunities are advertised but individuals can also approach employers to ask whether they might be involved in volunteering in order to build work experience.

Mentorship and Role Models

Students may find it helpful to consider mentors or role models. A mentor is generally someone who serves as a guide for a student. For example, if a student is planning to be a medical doctor, he/she might connect with an experienced medical doctor in the community and meet with this person occasionally for consultation regarding the work of being a medical doctor.

A student learns from a mentor through the sharing of experience, advice, and learning by example. Role models are similar to mentors. Role models are

people that demonstrate positive qualities and are good examples of individuals that students may desire to imitate. A student may have many role models that reflect the various life roles. For example, one role model might be a good example of a dedicated worker and another person might be a good example of a caring parent. Mentorship implies a process more similar to an informal type of apprenticeship.

Job Fairs

Job fairs can be organized by post-secondary institutions or by the community. A job fair is a large event where many employers are invited to participate. The employers represent their companies and they are available to talk with interested students about the company. The employers may or may not have jobs available at the time of the job fair.

Individuals go to a job fair to find out about many different companies and to gather more information from the employers about jobs that may be available when they complete their training.

Job fairs also present the opportunity to link students with resources that enhance their job search skills. In cases where employers are hiring, they may conduct brief interviews with students. Job fairs provide a cost-effective way for both employers and prospective employees to meet each other.

Job fairs can also be considered in areas where there is a problem of unemployment. In these cases, career counsellors and career advisors from the university may join with employers to help educate people about selfemployment or training options.

CAREER DEVELOPMENT

In organizational development (or OD), the study of career development looks at:

- How individuals manage their careers within and between organizations and,
- How organizations structure the career progress of their members, it can also be tied into succession planning within some organizations.

In personal development, career development is:

- “... The total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to influence the nature and significance of work in the total lifespan of any given individual.”
- The evolution or development of a career - informed by (1) Experience within a specific field of interest (2) Success at each stage of development - and (3), educational attainment.
- “... The lifelong psychological and behavioural processes as well as contextual influences shaping one’s career over the life span. As such, career development involves the person’s creation of a career pattern, decision-making style, integration of life roles, values expression, and life-role self concepts.”

METHODS OF COLLECTING CAREER INFORMATIONS

It is essential to collect all type of informations related to a person and different careers for guidance and counselling purpose. On the basis of all these informations the career counsellor takes decisions. But the collection of such informations is not an easy task. It is very challenging for the career counsellor.

We can bifurcate such methods of collecting informations in the following manner:

(A) Methods for Collecting Informations about the Individual or Client

(B) Methods for Collecting Career Informations

Both types of informations are the pre-conditions for any type of guidance. These informations also remove a number of misconceptions regarding the abilities and behaviours of the clients or students and hence wrong guidance can be avoided. Informations related to the individuals are also important because the problems of every individual are of different nature. In order to find out the solution of these problems, the study of various aspects of a person's personality is must. These personality studies are matched with the career informations.

So it is essential to collect these informations, *i.e.*, regarding the clients as well as careers. A detailed description in regard to the both aspects mentioned above are given below

INFORMATION ABOUT THE INDIVIDUAL OR CLIENT

To study any individual, we need the following informations

General Data

General data includes an individual's personal information such as (i) Name, (ii) Home address, (iii) Date of Birth, (iv) Birth Place (v) Sub-name, (vi) Sex, *etc.* On the basis of these informations, contact can be established with an individual

Physical Data

Under physical data, those informations are included which are related to the health and physical structure of a person. Physical data has its own importance for guidance. In order to study the pupils the guidance worker should know about their diseases, *etc.* Other physical disorders should also be known. For vocational guidance, the knowledge of physical data is must. For example, persons having weak eyesight are unfit for the professions related to aircrafts. Similarly, with weak heart, people are not fit for medical profession and education. Hence, collection of physical data is must.

Family and Social Environment

Psychological studies have proved the effect of social and family environment on the mental, physical and social development of a person. Hence, it is very important to collect the informations relating to family and social environment. The family and social informations include the following:

- Name of Parents,
- Parent's Occupation,
- Parent's Education,
- Religion of Parents,
- Health of Parents,
- Birth place of Parents,
- Citizenship,
- Mother Tongue, *etc.*,
- Family Circumstances,
- Occupation of Other Family Members,
- Economic Condition of the Family,
- Information Regarding the Brothers and Sisters of the Person or Student,
- Names of Brothers and Sisters,
- Education of Brothers and Sisters,
- Health of Brothers and Sisters,
- Date of birth and Education of Brother and Sisters,
- Whether Parents Alive or Dead,
- Whether Parents are Step,
- Information Regarding Neighbours of the Family,
- Informations Regarding the Companions of the Child.

All these informations are important for the guidance of the child, because psychological researches have proved the effects of family and social environments on the development of the person.

Mental Abilities

In order to provide guidance, it is essential to have mental abilities of a person because some subjects and vocations require mental abilities, such as, very high level of mental ability or I.Q. is needed to study the medical and engineering subjects. It is necessary to know the I.Q. of the persons having low mental ability in order to provide the information regarding various subjects. Such type of information will also tell us whether the mentally retarded child can acquire higher education or not. Various types of tests are used to know the I.Q. or mental abilities. Psychologists have secured success in knowing the mental abilities of pupils or other persons by developing various tests in this field.

Educational and Other Achievements

The guidance workers should keep with them the records of all types of achievements of the pupils, such as the years of passing out the various examinations along with subjects marks obtained and the position gained in that subject. In which subjects he has mastery? Whether the pupil has won any scholarship or prize, etc.? The high school authorities can prepare future plan with the help of such informations. These achievements should include the records relating to the curricular and co-curricular activities: On the basis of this record the persons of other institutions will not commit any mistake in selecting the pupils.

Record of Class Work

In this, record of all the schools where a pupil studied and various difficulties experienced in various schools should be kept along with the class-work record because for guidance. The role of these informations for guidance may prove very important. This entire record should be available with the guidance providing, personnel or with counsellor so that they may study the record as and when required.

Interests

The interests are concerned with the present state of inclination of the mind. This can be natural as well as acquired. For educational and vocational guidance, knowing interests is very essential. Without this knowledge, guidance programme cannot be initiated. The guidance worker can do injustice with the pupils in the absence of knowledge of interests. Interest inventories can be used to know the interests. Sometimes we try to know the interests of the pupils by observing their style of daily functioning. But this method is non-standardized. Interest inventories are standardized. The guidance providing person should not determine the interests of the pupils at their own. This may make the decisions regarding guidance erroneous.

Aptitudes

The aptitudes are concerned with the ability to predict the future success of the pupil. Hence, aptitudes are concerned with the future and these abilities exist in the person naturally. These can not be acquired. If a pupil has an aptitude or music, it would be natural not acquired from environment. Hence, it is essential to find out the aptitudes existing in the pupil in order to guide him for his future success. For this purpose, many standardized tests have been constructed. The informations relating to aptitudes can be used in providing vocational guidance to the pupils. Hence, for providing vocational guidance knowledge of aptitudes and interests is must. These test help in assessing the wrong choices of subjects and vocations. Sometimes it is difficult to know the aptitudes of very young children.

Other Aspects of Personality

The formation and development of the personality of the pupil is also a chief aim of educational process. For this, it is essential to know the different aspects of one's personality. We should know this too the main characteristics of a balanced personality. The personality traits of a pupil can be known from the anecdotal record and various personality tests can be used.

Information Regarding Adjustment

In order to provide educational guidance to the pupil, it is essential to know what type of his personal adjustment is? What type of relations that pupil has

with the teachers, friends, parents and other classmates'? These informations must be kept in record. Various types of activities occur in the school, such as sports, debates, programmes by students councils, *etc.* Participation of the pupils, in these activities exhibits their adjustment. On the basis of these informations, educational guidance should be imparted to the pupils.

5

Skills Needed in Counselling

ATTITUDES

There is probably nothing which has a greater impact on the outcome of a counselling session than the helper's attitude. Attitudes can be positive or reactive. Attitudes are included in this unit on skills because good attitudes can be learned and practised.

They include the following:

- Respect
- Guidance/congruence
- Unconditional positive regard
- Empathy
- Self-disclosure
- Confrontation

Respect

It is one of the most important human attitudes required. It normally begins with respecting one's self, so that others respect you in turn.

It is having good intentions and warm regard for students. Respect the students and avoid imposing your values on them. Avoid judgment.

Many times, respect demands praising the individuality of each student, supporting each one's search for him/herself, and structuring the counselling to the needs, capacities and resources of the individual student. The teacher needs to ensure that the student accepts the problem and the solution as his/her own.

Genuineness/Congruence

Genuineness is at times referred to as congruence. It is the consistency or harmony between what you say, and what you are, as a teacher. This condition reflects honesty, transparency, and trust. This element is basic to a counselling relationship. Once it is established, open communication, warmth and respect for the client gradually develop.

Unconditional Positive Regard (Warmth)

You may have experienced situations where a student approached you with a concern, and you blamed the student, or acted as if the student bothered you. These are negative attitudes which are ineffective in counselling. Unconditional, positive regard makes students feel welcomed and valued as individuals.

An example to illustrate this warmth is the following:

- ‘Hello, Jane. Can I help you?’

Not:

- ‘I am sorry, I am very busy. I prefer you to be very brief.’
- ‘Hello. Can I help you? I am sorry I am very busy and prefer that you be brief.’

Empathy

Empathy is your ability, as a teacher, to understand what your students experience, and communicate this kind of feeling. Carl Rogers, defined it as perceiving the internal frame of reference of another person.

Gerald Egan, explains it as entering the private perceptual world of the client, and being sensitive to his/her feelings, whether good or bad. As a teacher, you need to be empathetic. You need to be responsive to both the content and the feelings expressed by students. This attitude helps you to assess students’ concerns and understand them better.

Self-Disclosure

Self-disclosure helps your student to communicate easily. It is one of the attitudes that helps your student to reveal something about him/herself. It helps to create mutual trust, and disarm the student, so that he/she feels free and talks openly. This is equally important for both parties in the counselling session. It promotes a relationship through increased communication and better understanding of the student. It also helps the student to understand him/herself better, and help him/her get rid of the burden of guilt. This is a first step in behavioural change. Opening with self-disclosure helps the student to talk about his/her problems more concretely and realistically, and allows him/her to act accordingly. Disclose only what is necessary.

Confrontation

This is when you use your student’s behaviour, or words, to point out inconsistencies between what is said and what is done. When handling a response, confrontation, or

challenging attitudes, is a healthy development in counselling. For example, a student may say he/she hates a particular teacher and, in another instance, may say that he/she likes her. This is inconsistent. You could draw the attention of such a student to such inconsistency by saying, 'You said that you did not like the teacher. Now you are saying that you like her. What exactly do you mean?' Remember to bring this out in a 'feeling' and not in a threatening way. You will, in this way, initiate action in your student.

LISTENING

Effective listening is more complicated than it seems, since it involves a teacher's own level of self-awareness, as well as his/her awareness of the spoken and unspoken cues of the other person. Furthermore, a teacher needs to be able to respond to the student in such a way that he/she feels understood. Being a good listener entails receiving and sending appropriate messages.

In counselling this is important, because it means meeting the needs of the students. Listening to students is not just a matter of receiving what they say, but also receiving how they say it. Sometimes how they communicate is much more revealing than what they actually say, which may be more concealing than revealing. Listening skills are basic to all human interaction, whether the purpose is for getting information, conducting in-depth interviews, or offering informal help. Listening is considered to be the most important counselling skill.

VERBAL COMMUNICATION

The use of words in counselling is a skill which, like any other skill, requires practice to master. Verbal communication takes place first in the literal or content phase. If inappropriate vocabulary is used, rapport and understanding will be hindered. When this happens, miscommunication occurs. Even common words can be misunderstood due to the multiple meanings they carry. Look up any common English word in an unabridged dictionary, and you will find several different definitions of this word. So the potential for miscommunication is great.

In addition to the literal phase of verbal communication, there is also the emotional phase. This refers to other attributes involved in vocal interactions, such as volume, the emotional edge, and other non-verbal cues such as gestures. A student saying, 'I don't care' while angry, or while indifferently walking away from you, or while weeping with his head in his hands. Although the words are the same, the message conveyed is vastly different. As helpers, we must be sensitive to both the literal and emotional phases of verbal communication. In addition to the two general phases of communication that we have just discussed, there are five more levels of communication. Each of these levels is valuable in different contexts.

The five levels of communication are:

1. Cliches;
2. Facts;
3. Beliefs;
4. Emotions; and
5. Intimacy.

Cliches

This is a French word which has been adopted by English speakers to mean a trite, well-worn phrase. A universal example is the greeting, 'How are you?' 'I'm fine. How are you?' In some African languages, a formal greeting may take ten minutes and yet nothing new is communicated. Everybody is always *good* or *fine*, because that is the pattern the greeting takes. This is communication at the most superficial level, but an important social obligation is met.

Facts

Facts are pieces of information that we pass on to others. They include comments on current events like, 'The morning news mentioned that the President is coming to town tomorrow,' or making conversation on the weather *e.g.*, 'Those clouds look as if they could bring rain this afternoon.' The communication of facts may transmit valuable information from one to another, but little interaction takes place.

Beliefs

Beliefs include any part of an individual's value system. They may communicate insights and choices, or facts which are value-laden. The sharing of one's person begins at this level, and the risk of rejection increases. The sharing of beliefs may include subjects which are considered 'forbidden' in some cultures, such as sex, politics, or religion.

Emotions

Emotions include communicating personal feelings. 'I am thrilled that I was invited to the party', or 'That teacher is rude, he annoys me'. Communication at this level is difficult for most men and women. It requires a great deal of vulnerability to share feelings with someone else, and more so when feelings about another are shared.

This is the optimum level for counselling to take place. If the student talks to the teacher at an emotional level, and the teacher responds at the level of facts or beliefs, counselling may be derailed. A miscommunication may occur. Guidance may take place at the facts or beliefs level, but effective counselling rarely does.

Intimacy

Although sometimes used as a euphemism for sexual intercourse, intimacy is more accurately defined as the intercourse of the soul. At this level, the self becomes united to another person. This is a level of communication that many individuals never experience. Indeed there is some debate as to whether such a level is even desirable, since the self may be compromised.

In counselling, this is an inappropriate level, since it may encourage the dependency of the student on the helping teacher and thereby inhibit the student's personal growth.

LEADS

Leads may be defined as statements that counsellors use in communication with the clients.

Leads have been classified into categories of techniques, namely:

- *Restatement of Content:* Attempts to convey understanding by repeating or rephrasing the communication.
- *Questioning:* Seeks further information and asks the person counselled to elaborate a point.
- *Reflection of Feeling:* Understanding from the client's point of view and communicating that understanding.
- *Reassurance:* Serves as a reward or reinforcing agent. It is often used to support the client's exploration of ideas and feelings or test different behaviour.
- *Interpretation:* Explains meaning behind the client's statements.

Example

A statement by a client immediately after seating herself in the counsellor's office. The counsellor had not met the student before. Different leads or counsellor responses are given and classified. 'Miss Musonda told me to come down here to talk to you. I don't know why. She said I couldn't go back to class until I have learnt to stay awake. I work at a restaurant until one o'clock every morning in a part-time job, and I am tired. Anyway, who could stay awake in there? She bores you to death!' Among some of the responses the counsellor could make are the following:

- 'You were bored and fell asleep, and Miss Musonda asked you to leave the class.'
 - Restatement of content = understanding
- 'What does she do that you find boring?'
 - Questioning = investigating
- 'You feel put off.'
 - Reflection of feeling = understanding
- 'I am sure that something can be worked out between you and Miss Musonda in this situation.'
 - Reassurance = supporting
- 'Do you think that you might be disowning responsibility for what has happened?'
 - Interpretation = interpreting

THE USE OF COUNSELLING SKILLS IN GROUP TRAINING AT WORK

Group or One-to-One

Most of the time we talk of 'counselling at work' as taking place in a one-to-one format. Working over a limited number of sessions, issues are addressed

that affect people's performance at work. In that setting the counsellor uses his or her specialised abilities to facilitate clients being able to understand and deal more effectively with their specific issues. What is less talked about is the use of counselling skills in-group training workshops. In this context, too, the use of counselling skills can have a significant and positive impact on the intended outcome.

Training can be damaging to your health! When you look at the non-technical areas those much training addresses—communication, personal effectiveness, team building, presentation, etc—you can see that all these areas touch on people's self-esteem, value and confidence.

In unskilled hands participants can finish a training feeling undermined and unsupported. And this is often why companies shy away from 'touchy-feely' training that they fear won't really make things better. The counselling skills are essential to good training and it is required to all of facilitators to have some background in the use of counselling or psychotherapy skills. By this we are not talking about group therapy, which by its very nature needs to be facilitated by counsellors or psychotherapists. We mean the sort of courses run by the various institutes: structured, active trainings, with delegates participating in a variety of processes and exercises.

However, experience shows that the use of counselling techniques in training makes for a better outcome. Just about any interactive workshop situation can benefit from the use of counselling skills. Good training is viewed as personal development, not just a place to learn new tools and techniques.

Similarities between One-to-One Counselling and Group Work

Part of the purpose of counselling is to facilitate clients developing their ability to cope with stress and deal more effectively with difficult or challenging situations as they arise. As esteem and confidence are increased, individuals have a greater capacity to change their behaviour in healthy and appropriate ways. So, too, with good people skills training.

These kinds of workshops should not be places where participants are 'trained' in the 'right' way to communicate, to present, and to lead others. Unfortunately, that is often what happens: participants are given rigid rules and regulations which can be demotivating and can shut down their creativity and enthusiasm for finding their own solutions. When counselling skills are used in training, delegates' esteem and capabilities are dramatically increased. As a consequence of this, their capacity to take in new information and integrate it is far greater.

"You didn't try to change me, but let me find my own way." This is also what counselling is about: not changing the person, but helping them to become more authentically themselves.

There are the obvious transferable Counselling Skills such as:

- Creating a safe environment so that people are more able to take risks
- Setting effective boundaries so that delegates know where they stand and what's expected of them within a workshop format

- Using active listening and responding skills, which allow participants to feel heard and understood
- Working in a non-shaming way so that people can disclose some of their concerns
- Allowing participants to work at their own pace
- Not pushing or forcing delegates to do things they don't want to do
- Letting people find out what works best for them
- Allowing people to find their own solutions rather than giving advice or answers, while at the same time offering a range of options for them to practise
- Understanding that there will be issues of transference and projection during even the shortest training session

Workshops are just that: Places for delegates to explore different options and practise new ways of behaving where there are no career limiting consequences, mirroring the exploratory nature of counselling. They may experience unusual or even uncomfortable feelings, but they will also discover not only what works best for them but also what they know they'll be able to put into practise in the 'real world' outside the training arena. Good counselling is flexible rather than fixed to a rigid structure: the counsellor sees what a client needs and is able to provide that flexibility. People skills training also needs to be flexible and attuned to the needs and capabilities of the group rather than sticking to a fixed, prepared structure. Having counselling skills enables a trainer to change that structure when they see what else might be needed.

A less obvious skill is the ability to deal only with what delegates bring into training, rather than what else the facilitator may see is going on. Effective counselling creates the space for clients to realise that there may be deeper issues that need tackling.

But counsellors who 'move in' too quickly when they are aware that there is more going on than the presented problem(s) are in danger of undermining a client's trust and pushing them beyond where they are ready, willing or able to go. In turn, there can be a great temptation amongst trainers to 'show off' how good they are at noticing what people need. They often confront delegates and comment on their behaviour, motivation or feelings when it is inappropriate to do so. They will lose the delegate's trust and may be entering territory outside the workshop remit. The use of counselling skills in this type of situation is having the awareness that there may be other issues going on for the delegate, being capable of dealing with them if they do arise, but having the patience and humility to leave them be if they don't. One of the surest ways of creating trust, building confidence and boosting self-esteem is for people to really feel seen for who they are.

We know that when we run trainings at work, we are privileged to be dealing with very capable, intelligent and willing delegates. Even if people are resistant, having been sent on a training rather than self-enrolling, they will be of a high caliber in terms of their ability to understand relatively complex ideas and concepts. Respect for which the delegate is, is fundamental to our work; as well

as trusting that they will know what is best for them. By working with the skills, talents and abilities delegates already bring to the workshop and developing those, we can help them see that some of the recurring difficulties they have are usually triggered by certain people or situations. This is far more effective than telling people what their problem is and what they're doing wrong that gets them into difficulties.

Pointing out what's wrong and trying to fix it is a lot harder on both the facilitator and the delegate and is ultimately de-motivating and de-skilling. Yet time and time again we hear about training that does just that.

We have even heard people being told the cringe-making phrase: getting criticism may not feel good, but remember, there's no gain without pain.

Counsellors who give their clients a run-down of their faults and say, 'Now we'll work on fixing those' will soon find themselves without much of a practice! Counsellors see and support the best in their clients in order to then be able to address the difficulties and areas that most need attention.

SKILL DEVELOPMENT AND TRAINING INSTITUTES IN INDIA

The Government of India has taken several initiatives to develop skills in different trades/disciplines. These initiatives have helped skill development and creation of self-employment opportunities. Government of India has also recently announced special packages for training of entrepreneurs through specialized courses run by MSME development institutes for new and existing MSME entrepreneurs. Financial support to select business schools is also provided to tailor made courses for training the entrepreneurs.

National Level Training Institutes

- National Institute of Micro, Small and Medium Industry Extension Training(NIMSMIET), Hyderabad
- National Institute for Entrepreneurship and Small Business Development(NIESBUD), New Delhi, which conducts national and international level training programmes in different fields and disciplines.
- Indian Institute of Entrepreneurship (IIE), Guwahati. The main objective of the institute is to act as a catalyst for entrepreneurship development with its focus on the North East.

Other Associated Agencies

- National Small Industries Corporation (NSIC) for technology and marketing support
- Small Industries Development Bank of India (SIDBI) an apex bank set up to provide direct/indirect financial assistance under different schemes to meet credit needs of the small-scale sector and to coordinate the functions of other institutions in similar activities.

- Khadi and Village Industries Commission (KVIC) assists the development and promotion and disbursement of rural and traditional industries in rural and town areas.

State Level Institutional Support

- State Government executes different promotional and developmental projects/schemes and provide a number of supporting incentives for development and promotion of MSME sector in their respective States.
- These are executed through State Directorate of Industries, who has District Industries Centers (DICs) under them to implement Central/ State Level schemes.
- The State Industrial Development & Financial Institutions and State Financial Corporations also look after the needs of the MSME sector.

Related links for setting up of Small and Medium Enterprise in India

Central Government/Institutions/PSUs:

- Chief Controller of Accounts
- Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)
- Small Industries Development Bank of India (SIDBI)
- Ministry of Food Processing Industries
- Ministry of Rural Development
- Ministry of Textiles
- National Manufacturing Competitiveness Council (NMCC)
- Department of Information Technology
- Department of Heavy Industry
- Department of Industrial Policy & Promotion
- Department of Commerce
- Ministry of Law & Justice

State Government/Institutions/PSUs:

- State Directorate/Commissionerate of Industries
- State Khadi Boards
- Andhra Pradesh State Financial Corporation
- Delhi Financial Corporation
- Gujarat State Financial Corporation
- Himachal Pradesh Financial Corporation
- Jammu & Kashmir State Financial Corporation
- Madhya Pradesh Financial Corporation
- Orissa State Financial Corporation
- Uttar Pradesh Financial Corporation
- Pradeshiya Industrial & Investment Corporation of Uttar Pradesh (PICUP)

Non Governmental Organisations:

- Ashoka
- Appropriate Rural Technology Institute (ARTI)

- Appropriate Technology Mission of India
- BASIX
- Centre for Learning, Organic Agriculture and Appropriate Technology
- Centre for Science and Environment (CSE)
- Consumer Education & Research Centre (CERC)
- Consumer Guidance Society of India (CGSI)
- CUTS International (Consumer Unity & Trust Society)
- Drishtee Foundation
- EFFICOR
- GOONJ
- Habitat For Humanity India
- Habitat Technology Group
- National Solid Waste Association of India
- Professional Assistance for Development Action (PRADAN)
- Self Employed Women's Association (SEWA)
- Shri Mahila Griha Udyog Lijjat Papad
- Society for Development Alternatives (SDA)
- Technology Informatics Design Endeavour (TIDE)
- The Energy Research Institute (TERI)
- Thrive
- Toxiclinks
- WaterHealth

Industry Associations:

- SME India
- National Bank for Agriculture & Rural Development (NABARD)
- Laghu Udyog Bharati (LUB)
- SME Network - Network of Small and Medium Enterprises Associations & Members
- Federation of Indian Chambers of Commerce and Industry (FICCI)
- Confederation of Indian Industry (CII)
- The Associated Chambers of Commerce and Industry of India (ASSOCHAM)
- Federation of Indian Micro and Small & Medium Enterprises (FISME)
- World Association for Small and Medium Enterprises (WASME)
- India Trade Promotion Organisation (ITPO)
- Technology Innovation Management and Entrepreneurship Information Service
- Technology Bureau for Small Enterprises (TBSE)
- Asian and Pacific Centre for Transfer of Technology
- Environmental Information Centre

International Organisations:

- International Network for SMEs
- WIPO Small and Medium-Sized Enterprises
- United Nations Industrial Development Organization

- World Trade Organisation
- European Commission - Enterprise & Industry
- Innovation - SMEs
- Canadian International Development Agency
- Small and medium-sized enterprise information center, Canada
- SME Centre, Hongkong
- Small and Medium Enterprises in Ireland
- SME Information of Japan
- Ministry of Economy, Mexico
- World Trade Centre, Mumbai
- Small and Medium Enterprise Development Authority, Pakistan
- Swedish International Development Agency
- Small and Medium Enterprises Development, Washington, USA
- Department for International Development, UK

EMPLOYMENT OPPORTUNITIES FOR RURAL YOUTH

Rural Self-Employment Training Institutes (RESTI) are promoted for the purpose of providing opportunities to the rural youth for their skill up gradation leading to self-employment. Rural Development and Self Employment Training Institute (RUDSETI) have also been successful. The Ministry of Rural Development has established RSETIs in all the rural districts of the country.

These institutes are bank led i.e managed and run by the public/private sector banks with active support of the State and Central Governments. The RESTI's core offering includes its free, unique and intensive short-term residential training designed for rural youth. What makes it different from other vocational trainings is its demand driven approach, a priority for rural BPL youth, a wide choice of vocations and continued hand holding to ensure sustainability of micro enterprise and credit linkage after training. So far, more than 190 RSETIs have been established in different States of the country with active participation of 35 public/private banks, and these institutes have trained more than 1.5 lakh rural youth on various trades.

Objectives of the RSETI:

- (i) Training of rural BPL and other youths for self-employment.
- (ii) Need based training programmes.
- (iii) Intensive short-term residential self-employment training programmes with free food and accommodation.
- (iv) Areas of the training programme are decided after the aptitude test of the candidate.
- (v) Hand holding support for assured credit linkage with banks
- (vi) Escort services for at least two years after the end of the training programme to ensure sustainability of the micro enterprise trainees.

Programme Structure

The training programmes under RSETIs are entirely free of cost. On an average each RSETI offers around 30-40 skill development programmes on different areas in a year. All the programmes are of short duration ranging preferably from 1 to 6 weeks. The skill development trainings offered by RSETI are broadly in the following areas:

Agricultural Programmes: Agriculture and allied activities like Dairy, Poultry, Apiculture, Horticulture, Sericulture, Mushroom cultivation, floriculture, fisheries, *etc.*

Product Programmes: Dress designing for men and women, Rexine utility Articles, Agarbatti manufacturing, Football making, Bags, Bakery Products, Leaf Cup making, Recycled paper manufacturing, *etc.* **Process Programmes:** Two Wheeler repairs, Radio/TV repairs, Motor rewinding, electrical transformer repairs, irrigation pump-set repairs, tractor and power tiller repairs, cell phone repairs, Beautician Course, Photography & Videography, Screen Printing, Photo Lamination, Domestic Electrical appliances repair, Computer Hardware and DTP.

Other Programmes - related to Sectors like leather, construction, hospitality and any other sector depending on local requirements.

One important feature is that the RSETI conducts only demand driven and need based training programme with an intention to provide self-employment to rural youth. Training programmes are decided by the local RSETI as per the local resource situation and potential demand for the products and services. Soft skill training shall be an integral part in all the training programmes.

Batch Size:

- (i) Batch size is around 25-30 candidates.
- (ii) Shramadan/Yoga, presentation of Most Important Lesson Learned Yesterday (MILLY) are the important parts of the training Programme.

Selection of Trainees

Youth from BPL households are given priority in the programme. They constitute at least 70 per cent of the total candidates and their participation is certified by the local DRDA. Rural youth those who are not from BPL households also apply for the training programme. SC/ST, minorities, physically challenged and women are also given weightage as per the SGSY guidelines.

Follow Up

After training, the trainees are provided two years hand holding support by the institute to ensure the sustainability of the activity. RSETI follows the approach of short duration training but long hand holding practice.

Credit Linkage

Credit linkage of the trainees is one of the important aspects of RSETI training programme. After completion of the training programme, institute sends the list

of the candidates to the bank branches and co-ordinate with them for extending financial assistance to the trainees for taking up entrepreneurial activities. The institute also involves successful ex-trainees with bank branches to make credit available to the trainees.

Innovative Programmes

RSETIs across the country design various innovative training programmes every year which are area specific, thus enabling the emerging entrepreneurs in acquiring the appropriate entrepreneurial skills in running their enterprises successfully. The basket of training programmes could vary every year and it is very dynamic in nature.

Skill Upgradation Programmes

Technology is making huge strides in the recent years. Thus, it becomes a necessity for the entrepreneurs to hone their skills to match up with the latest cutting edge technologies. Realizing this importance, RSETIs conduct various skill upgradation programmes for undertaking micro-enterprise and to enable the existing entrepreneurs to compete in this ever-developing global market due to technological change. These programmes are budgeted for and conducted as refresher programmes for not more than week duration.

Recognition of RSETI trainees

Certificate issued by the RSETI is recognized by all banks for purposes of extending credit to the trainees. It means that RSETI trained rural youths will be free to access any scheduled bank for loan/credit.

RSETIs Operational in the Country:

Sl. No.	State/UTs	No of RSETIs
1.	Andhra Pradesh	17
2.	Arunachal Pradesh	0
3.	Assam	3
4.	Bihar	4
5.	Chhattisgarh	0
6.	Goa	0
7.	Gujarat	20
8.	Haryana	2
9.	Himachal Pradesh	7
10.	Jammu & Kashmir	0
11.	Jharkhand	6
12.	Karnataka	24
13.	Kerala	10
14.	Madhya Pradesh	32
15.	Maharashtra	9
16.	Manipur	0
17.	Meghalaya	0

18.	Mizoram	0
19.	Nagaland	1
20.	Orissa	14
21.	Punjab	7
22.	Rajasthan	18
23.	Sikkim	0
24.	Tamil Nadu	7
25.	Tripura	0
26.	Uttar Pradesh	10
27.	Uttaranchal	5
28.	West Bengal	5
29.	A & N Islands	0
30.	Daman & Diu	0
31.	D & N Haveli	0
32.	Lakshadweep	0
33.	Pondicherry	1
Total		192

(Source: National Institute of Rural Development)

How to Join RSETI for a Training Programme?

Any rural youth desirous for self employment programme can enroll free of cost for skill development programme offered by the RSETIs in their district. To know the required information about the programmes, duration, application procedures and others, she/he may contact the local block office and DRDA office. Even she/he may contact any local bank branch office regarding the programmes of RESTI. Some of the RSETIs also give advertisement in local news paper regarding the programmes. The rural youth may also directly contact the Principal of the institute for necessary assistance.

CAREERS, JOBS AND EMPLOYMENT

Information Technology (IT) is a broad term that includes all aspects of managing and processing information and related technologies. Specifically, information technology professionals are responsible for designing, developing, supporting and managing computer hardware, computer software and information networks, such as the Internet. The realworld applications of information technologies can be found everywhere. In fact, IT is likely already a part of your life in ways you may not even be aware. Examples include computer software used to manage basic computer applications, computer generated animation in popular movies, networks and programmes that allow you to purchase online and satellites and systems that enable NASA to preform remote space exploration. There are a wide variety of career opportunities available for capable and experience IT professionals. Select a category below to review detailed job descriptions, career reviews, to identify useful technology degrees and to see employment forecasts.

HOW OUTSOURCING AFFECTS YOUR CAREER IN IT

In the United States, corporations plan to outsource many thousands of Information Technology (IT) jobs to outside firms. Most of these jobs will belong to so-called offshore organizations in India or Southeast Asia. The media buzz around IT offshoring and outsourcing continues to grow and take on a colder, more fatalistic tone as time passes. As a current Information Technology professional in the U.S., or a student considering a future career in IT, outsourcing is a business trend you must fully understand. Don't expect the trend to reverse any time in the foreseeable future, but don't feel powerless to cope with the changes either.

CHANGES COMING WITH INFORMATION TECHNOLOGY OUTSOURCING

Five or ten years ago, workers were attracted to the Information Technology field given the:

1. Challenging and rewarding work
2. Good pay
3. Numerous opportunities, the promise of future growth and long term job stability

Outsourcing will alter and is already altering each of these IT career fundamentals:

1. The nature of the work will change dramatically with offshoring; the future may be equally rewarding, or it may prove wholly undesirable depending on one's individual interests and goals.
2. Information Technology salaries will increase in the countries that receive outsourcing contracts and will decrease in the U.S.
3. Likewise, the total number of IT jobs will increase in some countries and decrease in the U.S, most future growth will happen outside the U.S and job stability will remain unclear everywhere until the outsourcing business models mature.

HOW TO COPE WITH INFORMATION TECHNOLOGY OUTSOURCING?

IT workers in the U.S., may already be witnessing some impacts of IT outsourcing, but the future impacts are likely to be much greater. What can you do to prepare? Consider the following ideas.

- *Don't Panic:* The prospect of job searches or career changes can be quite stressful to Information Technology workers. IT students may understandably begin to question their choice of career. However, the more stress and worry a person takes on, paradoxically the more difficult it becomes to successfully reach their career goals.
- *Don't Wait for The Upturn:* So-called "experts" have been predicting a sharp upturn in the U.S., economy for several years. It's more likely that the sought-after economic recovery has already happened and we should expect to operate in the current climate for the foreseeable future.

- *Become a Generalist:* Years ago in Information Technology, specialization was king. Those with the heaviest technical backgrounds and loftiest job titles, like Enterprise Architects, commanded the highest salaries. Nowadays, a person is much better positioned if they are skilled in multiple areas of both technology and the business side of IT. Flexibility is now king.
- *Look to Smaller Organizations:* Fortune 500 companies will embark on the vast majority of outsourcing and offshoring deals. Outsourcing creates a substantial amount of overhead before the gains kick in and small companies can't afford to pay that price for the foreseeable future.
- *Start Your Own Business:* Uncertain economic times and times of big industry change are often the best ones for starting a new business, due to lower prices for capital, less competition and the natural emergence of big new market opportunities. All it takes is an entrepreneurial attitude and a few good ideas.

Above all, whatever your chosen career path, strive to find happiness in your work. Don't fear the ongoing change in Information Technology just because others are afraid. Control your own destiny.

STARTING OR BUILDING A CAREER IN COMPUTER NETWORKING

Many view computer networking as one of the best and "hottest" career fields available today. Some claim that a serious shortage of qualified people to fill these networking jobs exists and these claims may lure some people into the fray hoping for an easy position with a fast-growing company. Don't be fooled! Debates over the actual extent of any "shortages" aside, networking involves mostly hard work and competition for the high-quality positions will always be strong. Continue reading to learn more about beginning or expanding a career in networking and pick up some valuable job-hunting tips that also apply to many other types of technical careers.

Job Titles: Several types of positions exist in networking, each with different average salaries and long-term potential and one should possess a clear understanding of these. Unfortunately, job titles in networking and in Information Technology (IT) generally, often lead to confusion among beginners and experienced folks alike.

Bland, vague or overly bombastic titles often fail to describe the actual work assignments of a person in this field.

The basic job titles one sees for computer networking and networking-related positions include:

- Network Administrator
- Network (Systems) Engineer
- Network (Service) Technician
- Network Programmer/Analyst
- Network/Information Systems Manager

The Network Administrator: In general, network administrators configure and manage LANs and sometimes WANs. The job descriptions for administrators can be detailed and sometimes downright intimidating! Consider the following description that, although fictitious, represents a fairly typical posting:

NETWORK ADMINISTRATOR—HOBO COMPUTING

“Candidate will be responsible for analysis, installation and configuration of company networks. Daily activities include monitoring network performance, troubleshooting problems and maintaining network security.

Other activities include assisting customers with operating systems and network adapters, configuring routers, switches and firewalls and evaluating third-party tools.”

Needless to say, a person early in their career often lacks experience in a majority of these categories. Most employers do not expect candidates to possess in-depth knowledge of all areas listed in the job posting, though, so a person should remain undeterred by the long, sweeping job descriptions they will inevitably encounter.

Comparing Roles and Responsibilities: The job function of a Network Engineer differs little from that of a Network Administrator. Company A may use one title while Company B uses the other to refer to essentially the same position. Some companies even use the two titles interchangeably. Firms making a distinction between the two often stipulate that administrators focus on the day-to-day management of networks, whereas network engineers focus primarily on system upgrades, evaluating vendor products, security testing and so on.

A Network Technician tends to focus more on the setup, troubleshooting and repair of specific hardware and software products. Service Technicians in particular often must travel to remote customer sites to perform “field” upgrades and support. Again, though, some firms blur the line between technicians and engineers or administrators.

Network Programmer/Analysts generally write software programmes or scripts that aid in network analysis, such as diagnostics or monitoring utilities. They also specialize in evaluating third-party products and integrating new software technologies into an existing network environment or to build a new environment.

Managers supervise the work of administrators, engineers, technicians and/or programmers. Network/Information Systems Managers also focus on longer-range planning and strategy considerations.

Salaries for networking positions depend on many factors such as the hiring organization, local market conditions, a person’s experience and skill level and so on.

High School and College Education: Those interested in networking careers can benefit greatly from earning a college degree. Most university programmes don’t offer a degree in Computer Networking *per se* and the precise name of the degree varies significantly from institution to institution. Four-year degree programmes suitable for the computer networking field usually involve a variation on one of the following:

- Computer Science
- Electrical and Computer Engineering
- Information Systems
- Communications Science
- Telecommunications, Telecommunications Management
- Telecomputing

As an alternative to a general four-year degree (that covers a variety of technical subjects besides computer networking), some institutions offer shorter-term programmes focused specifically on networking topics.

Until recently, computer networking courses were only found in post-secondary education. Nowadays, though, high school students have the opportunity to take networking courses too. These classes can be quite substantial, involving among other things configuring routers and switches, installing wire, network diagnostics, monitoring network activity and working with various network protocols and operating systems.

Which Programme Is Best?: Is a college degree worth the investment, or is a shorter, more focused curriculum the way to go? Opinions vary. A four-degree can demonstrate to prospective employers a level of dedication and long-term flexibility that a short programme cannot. On the other hand, a more focused programme can teach the basic networking skills quickly and allow more time for on-the-job experience.

Certifications: Network administrators and managers in particular have grown fond of networking-based certifications like Microsoft MCSE and Cisco CCNA. In general, to gain and keep a certification one must pass a lengthy (usually multiple-choice question) paper exam, then pass recertification exams at periodic intervals (usually every two or three years). A person has the choice of preparing for the exam through self-study or by enrolling in a certification course or “programme” run by a training organization (sometimes within high-tech companies themselves). Taking any certification exam involves paying a test “sitting” fee (usually in the range of \$100 to \$300 USD) and employers sometimes reimburse their employees for this cost.

Certifications are designed to accredit someone for a certain amount of industry experience that they’ve already gained. Some of the programmes will even make recommendations to this effect, typically one to two years of prior background for the entry-level certifications. However, experience is not strictly required. Some have criticized the entry-level exams for being too “bookish” in this respect, too easy to pass without prior hands-on experience.

Which certification is best? MCSE? CCNA? Something else? Again, the answer depends on the individual’s interests and also the preferences of hiring companies. Some ambitious students of networking avoid this problem by acquiring multiple certifications... sometimes as many as five or more! Be aware, though, that certifications are an incomplete substitute for formal education and industry experience. Ideally, one will acquire a few certifications as part of a balanced overall mix of education and career experience. Many companies,

particularly larger ones, offer their employees ongoing training opportunities. The employer will either build their own courses or will bring in an outside company to hold the training. These courses are typically focused on a specific product technology or tool, or on the specific technical information needed to pass a certification exam. One could argue it is preferable for the beginning networker to focus on general technologies at first rather than certifications, as companies in these case likely prefer to train employees “their own way” anyhow.

Networking Experience: The common lament of job seekers, that “employers only hire people with experience, yet the only way to gain experience is to get hired” applies in the computer networking field as well. Despite optimistic statements that one hears frequently regarding the number of available jobs in IT, landing an entry-level position can still prove difficult and frustrating.

One way to gain networking experience is to pursue a full-time programming or help desk “internship” during the summer months, or a part-time “work study” job at school. An internship may not pay well initially, the work may turn out to be relatively uninteresting and it is very likely one will not be able to finish any substantial project during the limited time there. However, the most important factor to consider is the training and hands-on experience such a job offers. The mere fact a person invests their time in this way, demonstrates the dedication and interest employers like to see.

The better the position, the more likely multiple candidates will apply for it, even if the job entails only part-time work. A good way to “stand out” from the competition is to demonstrate prior work and accomplishments, even if these involve projects done on one’s own time. A person can start with a class project, for example and extend it in some way. Or they can create their own personal projects, experimenting with networking administration tools and scripts, for example.

Explaining Experience: One of the most overlooked skills in computer networking is the ability to explain technical information. Whether verbally, through e-mail, or in formal writing, networkers that communicate well gain a significant advantage in building their careers.

For the beginning networker, the most obvious benefit of good communications skills is realized in job interviews. Being able to talk with people about technical subjects can be hard to do, but as one gains skill in answering impromptu questions, one builds confidence and relaxes, making one that much better prepared for career advancement. It is a good idea to periodically engage in job interviews for this reason, even if the position involved does not seem particularly appealing. Likewise one should also consider visiting local job fairs occasionally.

Technologies: One of the most common questions asked by beginning networkers is “Which technology should I focus on first? Microsoft? UNIX? Cisco? Novell?” As with certifications, preferences vary from company to company and person to person.

One way for a person to answer this question is to start with the technology that appears most interesting to them personally. Researching a company that

one plans to interview with and choosing a technology that the company deems important, is another way. Ultimately it probably matters little which networking technology one learns first. More importantly, one should acknowledge that technology changes rapidly and that the person who can enjoy a successful career by learning about only one technology is rare indeed.

Focus on the Basics: Computer networking involves a certain number of fundamental technologies. These technologies form the basis of many networking courses. Regardless of the form of education one chooses to invest in, one's career will always benefit from deeper study of technologies like IP and TCP/IP, the OSI model, Ethernet, internet working and others listed on this site, whether through formal coursework or through self-study.

Conclusion: Some people have asserted that networking (and IT generally) is a "young person's game," and that companies generally prefer to turn over their employee base periodically, to bring in younger, more affordable workers. This concept might sound appealing to some, but if it were true, it would make networking careers less inviting to most people.

Realistically, the field of computer networking presents so much complexity and involves such a wide range of technologies, that most serious companies should value both experienced employees and ambitious new employees highly. In fact, an effective career strategy involves seeking out more experienced people in one's field and learning new skills from these *mentors*.

Many firms view four-years degrees as a sign of commitment to the field. Network technology changes very fast, so employers care both about a person's current knowledge and also their ability to learn and adapt for the future. Certifications effectively prove current knowledge, but college degrees best demonstrate one's general learning ability.

Self-study in networking is always effective and underrated by many. By making contacts with those in networking careers, either people in one's local area, or individuals or sites on the Internet, one can quickly acquire a wealth of information ranging from technical details, to advice on writing a resume, to advice on specific hiring companies, schools and so on.

CHALLENGES FOR INDIA'S LIVELIHOOD YOUTH SKILL DEVELOPMENT IN RURAL AREAS

A critical element in India's 12th Five Year Plan (2012-2017) is the generation of productive and gainful employment on a sufficient scale. The aim of such planning is to systematically absorb the growing working population in the unorganized sector of an expanding economy. This sector contributes about sixty percent of the country's GDP. Infact, it employs workers in micro enterprises, unpaid family work, casual labour and home based work on a mammoth scale. In addition, it also absorbs migrant laborers, farmers, artisans and more importantly out of school rural youth.

In the last decade, the Indian economy has witnessed a structural transformation from agricultural activities to manufacturing and services oriented activities. A

distinct feature of this transition has been a substantial decline in the absolute number of people employed in agriculture. However, according to the Planning Commission, a crucial factor in the migration of the labour force from rural to urban areas is its temporary nature and occurrence only in lean agricultural seasons. Besides, this large chunk of labour force is not available to participate in the manufacturing or the services oriented activities due to severe lack of appropriate skill sets. According to the Commission, the latter reflects rural distress, driven by the fact, that more than eighty percent of India's farming households are small and marginal, tilling only less than 2.5 acres of land.

In the above backdrop, more than 700 million people are estimated to be of working age (24-59 years) in India by 2020. This indeed is a 'demographic dividend' that will also lead to a low dependency ratio compared to the rest of the world. Of these, approximately 500 million workers (including those who temporarily migrate from rural to urban areas in lean agricultural seasons) will require some kind of vocational/skill training. Besides, about 50 to 70 million jobs to be created over the next five years, (with more than 75% falling largely in the unorganized and informal stream) will too require capacity building in basic expertise.

High growth areas such as manufacturing, automotive, retail, trade, transport, construction, hospitality and healthcare have the ability to provide the required expanded employment. Public private partnerships in the country are already in the process of strengthening of rural infrastructure such as Industrial Training Institutes (ITIs), polytechnics, community polytechnics and vocational education in secondary schools. Workers such as technicians, welders, fitters, paramedics, tourist guides etc are to be skilled with a twofold objective- first, to close the skill gap of an already qualified workforce and second, to provide formal vocational training to those who have acquired skills informally.

At the same time, maintaining the efficiency and competitiveness of those of the working age group living in rural areas and depending upon agriculture is equally critical. Hence, the need also to create employable skilled opportunities in labour intensive industries and sectors such as agricultural food processing as well as allied value chains in livestock, floriculture, horticulture, *etc.*

No one doubts the veracity of the overarching national framework to give a jump start to the above agenda through the government driven National Skill Development Mission and the National Skill Qualification Framework. An excellent initiative is the setting up of Community Colleges based on the North American Modular Model that will impart vocational skills aligned to occupational standards determined by employer led skill councils.

However, what needs to be aggressively pushed, converged and monitored on priority is sustainable livelihood creation at the grassroots in rural areas. The National Rural Livelihood Mission (NRLM) funded by the World Bank aims at the laudable review of the entire portfolio of livelihoods of each poor household by providing handholding support through livelihood collectives. Besides, it promises supplementary creation of opportunities for both wage

employment and skill development for the rural youth. Such a review under NRLM will, first and foremost, requires suitable decentralized convergence of skill development programmes run by multiple central ministries including the National Skill Development Corporation(NSDC). Panchayati Raj Institutions (PRIs), especially the last mile tier of these local bodies in villages- Gram Panchayats, should be adequately empowered to provide information to the rural youth through skill inventories and skill maps on a real time basis.

Herein, the Gram Panchayats' will need to have effective synergy with grassroots civil society organizations and online local employment exchanges to provide access to such information. This synergy (dovetailing with school curricula is also possible) will enable the youth in the middle and secondary school stages, to access information on labour market and skill development possibilities. Such access, infact, is crucial to the sustenance of Resource Community Development Blocks that are envisaged to act as live workable model at the grassroots under NRLM.

The Union Ministry of Panchayats Raj provides funds to local bodies in rural areas through national programmes such as The Rashtriya Gram Swaraj Yojana (RGSY) and the Backward Regions Grant Fund (BRGF).

These should be targeted to strengthen and plug crucial gaps in the rural local bodies' institutional infrastructure such as the critical requirement of broadband connectivity for providing real time information on skills. Such connectivity needs to be taken up on priority in populous states like Bihar, Rajasthan, Jharkhand, Uttar Pradesh, Madhya Pradesh and Chhattisgarh.

These states comprise 80% of India's population including the youth from low income families in whose case low quality of educational standards coupled with a high dropout rate beyond primary school stage is a major challenge. Besides, such youth have minuscule information about or access to various options in relevant skill training and are often also unable to pay the admission fees for such training.

Infact, need based experiential skill learning supported by public sector banks/ organizations in rural areas is the key to strengthen the Rural Self Employment Training Institutes (RSETIs) being set up in all districts under NRLM to assist such youth. In this regard, the Government of Gujarat has innovated to introduce the Skill Voucher Scheme wherein a private sector agency or a government department can purchase a pre-paid voucher from the Gujarat Skill Development Mission to train the youth, including those from rural areas, in required skills.

In addition, the scheme incentivizes and mobilizes the rural youth to possess the freedom to select the skill course or institute they opt to get trained in. The institutional approach herein is more market and demand driven with less stress on supply and allocation driven mechanisms. Infact, it would be a challenge to incorporate such an approach under NRLM through the institutional matrix of the National, State, District and Sub District (Block) Mission Management Units in poorer provinces of the country.

Another key challenge in the support structure of the Sub District Level Mission Management Unit under NRLM (with PRIs especially Gram Panchayats and civil

society organizations as critical stakeholders) is the effective implementation of Knowledge Management, Strategic and Operational Communication Strategies envisaged. The latter are absolutely essential for both a qualitative/quantitative review and assessment of measuring the outcomes in providing access to skill development opportunities. Reaching out and involving vulnerable sections amongst rural youth in poorer states such as the scheduled castes, scheduled tribes, women, disabled, migrant labour, isolated and communities living in disturbed areas is a must.

Use of Dedicated Digital Grids for organizing management information systems in the above regard may take some time to start off due to broadband connectivity constraints in rural areas. But strengthening the project facilitation teams at the Sub Block Level through use of interpersonal communication and Information, Education Communication (IEC) activities especially locally viable social media such as Community Radio can be extremely useful.

The liberalized 2006 Community Radio National Guidelines of the Government of India provides licensing for civil society and voluntary organizations to assist marginalized communities especially youth in rural areas to manage, own and operate radio stations.

The aim is to focus on locally relevant socio-economic development, events, businesses, services and skill employment opportunities. Besides, fifty percent of the content is to be generated in local dialects with the participation of the local community for which the station has been set up. Thus, with a transmitter having an effective radiated power of 100 Watts, the community radio station is expected to cover a range of 10 kilometers (6 miles). In addition, non-profit organizations are eligible to seek funding from multilateral aid agencies.

It would be extremely beneficial to dovetail, in NRLM's communication strategy plans, setting up of community radio stations under the above mentioned innovative 2006 National Guidelines. These community run radio stations could develop a sustained linkage with the already operational livelihood collectives *i.e.*, self help groups (SHGs) in addition to project facilitation teams active at the grassroots. Community driven programming in these radio stations could offer 'jobs' solutions. This could include identifying the unemployed in resource blocks, providing specific information about skilling and re-skilling opportunities, post placement support, counseling/mentorship and leveraging an alumni network.

Such an information rich rural space supplemented by other social media would truly create a sensitive network support for skill development of rural youth and check their migration to urban areas under conditions of distress.

VOCATIONAL DEVELOPMENT AND CAREER COUNSELLING

VOCATIONAL THEORIES

There are several types of theories of vocational choice and development. These types include trait and factor theories, social cognitive theories, and

developmental theories. Two examples of trait and factor theories, also known as person–environment fit, are Holland’s Theory and Theory of Work Adjustment. Holland hypothesized six vocational personality/interest types and six work environment types: realistic, investigative, artistic, social, enterprising, and conventional.

When a person’s vocational interests match his or her work environment types, this is considered congruence. Congruence has been found to predict occupation and college major. The Theory of Work Adjustment, as developed by Dawis and Lofquist, hypothesizes that the correspondence between a worker’s needs and the reinforcer systems predicts job satisfaction, and that the correspondence between a worker’s skills and a job’s skill requirements predicts job satisfactoriness. Job satisfaction and satisfactoriness together should determine how long one remains at a job. When there is a discrepancy between a worker’s needs or skills and the job’s needs or skills, then change needs to occur either in the worker or the job environment.

Social Cognitive Career Theory has been proposed by Lent, Brown and Hackett. The theory takes Albert Bandura’s work on self-efficacy and expands it to interest development, choice making, and performance. Person variables in SCCT include self-efficacy beliefs, outcome expectations and personal goals. The model also includes demographics, ability, values, and environment. Efficacy and outcome expectations are theorized to interrelate and influence interest development, which in turn influences choice of goals, and then actions. Environmental supports and barriers also affect goals and actions. Actions lead to performance and choice stability over time.

Career development theories propose vocational models that include changes throughout the lifespan. Super’s model proposes a lifelong five-stage career development process. The stages are growth, exploration, establishment, maintenance, and disengagement. Throughout life, people have many roles that may differ in terms of importance and meaning. Super also theorized that career development is an implementation of self-concept. Gottfredson also proposed a cognitive career decision-making process that develops through the lifespan. The initial stage of career development is hypothesized to be the development of self-image in childhood, as the range of possible roles narrows using criteria such as sex-type, social class, and prestige. During and after adolescence, people take abstract concepts into consideration, such as interests.

Career Counselling

Career Counselling may include provision of occupational information, modeling skills, written exercises, and exploration of career goals and plans. Career Counselling can also involve the use of personality or career interest assessments, such as the Myers-Briggs Type Indicator, which is based on Carl Jung’s theory of psychological type, or the Strong Interest Inventory, which makes use of Holland’s theory. Assessments of skills, abilities, and values are also commonly assessed in career counseling.

SKILLS NECESSARY TO PRACTICE AS A SCHOOL SOCIAL WORKER

School social workers perform on many levels, including work with individual students and their parents, groups of students, teachers, and community agencies. The following provides a brief overview of the many types of skills a school social worker must possess.

ASSESSMENT

The ability properly to assess and treat a student is at the core of providing adequate direct services. School social workers must “possess skills in systematic assessment and investigation” and “conduct assessments of student needs that are individualized and provide information that is directly useful for designing interventions that address behaviours of concern”. One of the school social worker’s most valuable roles is to educate members of the school district and community about the value of early assessment, intervention, and treatment by qualified mental health professionals.

School social workers contribute an essential dimension to the assessment of students through the use of the ecological perspective, which necessitates consideration of the child’s family and neighbourhood.

They must “incorporate assessments in developing and implementing intervention and evaluation plans that enhance students’ abilities to benefit from educational experiences”.

The other aspect of assessment that is unique to the social work profession is the use of the strengths perspective. As Saleebey has indicated, practicing from the strengths perspective means that “*Everything* you do as a social worker will be predicated, in some way, on helping to discover and embellish, explore and exploit clients’ strengths and resources in the service of assisting them to achieve their goals, realise their dreams, and shed the irons of their own inhibitions and misgivings”.

DIRECT PRACTICE

School social workers should have practice skills for working with individuals, groups, and communities.

Counselling Individuals

Mental health problems are present at all grade levels in the public school system. School social workers can help students with emotional and behavioural problems adjust to the school environment and learn to manage their own behaviours.

They also “promote collaboration among community health and mental health services providers and facilitate student access to these services”. In addition, school social workers assist parents and teachers in learning to cope with and manage a child’s emotional and behavioural problems.

Home Visits

School social workers visit the homes of students for various reasons. Some home visits are made to assess the reasons for student misbehaviour or absences. When students have prolonged absences, it is the school social worker who visits the home to assess the situation and give information back to the school district. Sometimes the school social worker makes an initial home visit in order to discuss a child's school difficulties when school officials have been unable to contact parents by phone. Social workers also visit student homes to involve the parents in activities that can reinforce programmes and behaviour management plans that the school has put into place. Some districts ask school social workers to provide outside intervention in the home, such as teaching parents how to make accommodations for attention-deficit/hyperactivity disorder (ADHD), autism, and special needs. School social workers help implement in-home training for special education students and provide parents with information that will assist them in parenting children with special needs.

Programme evaluation studies and theoretical and empirical research have indicated that positive intervention outcomes are related to factors other than child-centered activities. Family-centered services are intended to help the family maintain the child in the home and prevent out-of-home placement. In-home activities and parental involvement can help students succeed in school.

Group Work

Many students receive counselling at school through their membership in groups. Such groups meet the needs of diverse populations and are effective tools in reaching many students at once. Group work in schools includes the three major models of group work: remedial, reciprocal, and social-goals. The remedial model provides group therapy geared towards changing dysfunctional behaviour. The reciprocal model focuses on achieving mutual aid or support through group work such as that practiced by Alcoholics Anonymous. The social goals model addresses social consciousness or responsibility through groups such as social skills and anger management groups.

Some of the main types of groups with which social workers assist focus on social skills, support for new students, anger management, and grief and/or support related to parental separation. In addition, recreational groups provide field trips and teach new skills. Social workers also train students in group work and counselling skills so they can help their peers.

School social workers assist parents through group work as well. Teaching parenting skills and educating parents on how to accommodate students with specific disabilities are common tasks for school social workers. They also work with transition specialists to help students and their parents prepare to leave public school when the students turn 18 or have completed an equivalency exam for special education students leaving high school. Social workers teach parents about the various community programmes and resources and, when necessary, make referrals.

6

Evaluation of the Curriculum

The original meaning of curriculum in Latin meant a race— a specified distance to be run. In education, where the word curriculum has been imported, like in a race, there are starting points, purpose destinations/targets and specifications of routes. A good curriculum therefore presupposes good planning – one of the purposes of this workshop. Curriculum can be broadly defined as sum total of all the experiences a learner undergoes under the guidance of the school, institution/telecenter. The specific and formal knowledge and skills that the learners or managers will acquire from a Telecenter course/programme constitute a core curriculum. However, there are many there are many other “things” the course participants acquire incidentally (or “accidentally”) that are not planned for and yet are important skills, values or even knowledge in the life of the Telecenter manager, student or user.

Examples of unplanned curriculum are many. These can include; communication skills, organizational skills – organized office, workshop/laboratory, documents/ files - mobilization and public relation skills, moral and social etiquettes, *etc.*

All this stuff is called the “hidden curriculum” and the process of acquiring it is “incidental learning”. The Tele centers must therefore be organized and with a well enriched learning environment.

The main elements of a curriculum.

The main components of curriculum are;

- (i) *Aims and objectives:* Why should Telecenter managers be taught managerial or ICT skills?

Why should Telecenter practitioners acquire new skills? (Participants to raise more questions on the “whys”/purposes related to Telecenter activities/projects)

- (ii) *Content/subject matter*: What should learners, participants be taught so to answer the “why” of (i) above; *e.g.*, what skills, knowledge, values do you give/share with some one to make him/her a good manager or an effective competent Telecenter staff member?
- (iii) *Methods*: How will the skills, knowledge, values be developed in the Telecenter manager, staff or participant? What strategies can be put in place to achieve the objective(s) stated above?
- (iv) *Evaluation*: How will you be able to establish that the “why” (objectives) the “what” (content) and the “how” (methodology) were well covered? Evaluation helps the in-charge of the Telecenter programme/activities to improve on the other elements of the curriculum *i.e.*, objectives, content and methods.

Evaluation

Academic educationists have a rich background of theory and practice in course evaluation. Evaluation means discovering the value of a course or training programme. It means finding out if an innovation has been valid and useful, for whom and how it might be improved next time it is run.

Writers of a more technological persuasion limit evaluation to ascertaining the extent to which the course meets its stated objectives. However, since the 1960s this approach has been strongly criticised for its lack of relevance and utility. Cronbach (1963), for instance, argued for deeper analysis and broader descriptions of programmes as a basis for evaluation studies. Within another four years Scriven, Stufflebeam and Stake had introduced new models of evaluation that departed radically from the earlier approaches.

These conceptualisations recognised the need to evaluate goals, look at inputs, examine implementation and delivery services, as well as measure intended and unintended outcomes (Madaus et al, 1983).

There is no place here to describe the curriculum evaluation models which could be drawn on to review and assess training and evaluation, but it is worth listing some of the evaluation concepts which have developed in this field, such as goal-free evaluation (Scriven, 1974); meta analysis; responsive evaluation (Stake 1975); and naturalistic evaluation (Guba & Lincoln, 1981). Madaus et al (1983) claim a new dynamic professionalism is available to the new training initiative that is emerging in our society.

Straton (1973) makes the point that evaluation should be done for a number of different interest groups, not only for the provider. He emphasises that people must have available adequate and appropriate information to allow them to make informed judgements and decisions in differing situations. Evaluation studies are concerned with collecting that information. He proposes that Educational evaluation is the process of delineating, obtaining, and providing information about an educational programme which is of use in... making judgements and decisions related to the programme.

Judgements may encompass relevance, validity, cost effectiveness, growth, clients, processes and a virtually limitless array of factors which can help the

curriculum developer in the design and improvement of the course. All courses should be evaluated if they are to be used again. Formative evaluation entails the formal collection of data about the course so that it can be improved. Curriculum developers are not particularly interested in summative evaluation because that implies that the programme is over and there is nothing further to develop. Formative evaluation of training programmes, however, implies setting up pilot courses, trialling materials, and establishing feedback mechanisms with teachers and students, as well as collecting information about the course in operation.

The Curriculum Developer

It is commonly believed, at least in commerce and industry and at least some government departments, that curriculum developers need knowledge and experience in the field in which they write courses. There is, however, evidence to the contrary. People who are experts in their field tend to introduce their own biases and not see alternatives as clearly as outsiders might. They omit asking themselves the right questions or researching new directions and new technologies. Furthermore, people who are not trained in educational practice tend to repeat the strategies and structures by which they themselves achieved best when they were learning. Also they tend to see their own knowledge and careers as models for their students.

A curriculum generalist, on the other hand, is trained to ask the right questions of the right people and manage the curriculum process from start to finish. I have referred in this paper to curriculum teams, content experts and technical support as well as curriculum developers. The ideal team must include this range of talents. The content experts might do the content writing, and certainly with large projects this will be necessary. However with smaller projects like the production of module booklets or worksheets, where there may be more design expertise than content, the content expert may be able to tell the curriculum developer all the information needed and save time by leaving the writing to the developer. I have worked both ways. Whoever does the writing, the curriculum developer needs to keep a close eye on the formulation of objectives, the structure and level of the content, the format and the consistency of presentation. He or she controls the process and makes the decisions throughout. The other part of a curriculum team consists of the appropriate technical staff, typists, graphic designers, photographers, audio and video producers and the generators of all the technological wizardry we have been hearing about at this conference today.

The curriculum developer has to be a good communicator and a good listener. He or she should be even tempered, patient and an efficient organiser. It could wreck the process to fall out with any of the team, to miss deadlines, or to forget to keep the right people informed. The development of open learning strategies requires that these talents be even better developed in the curriculum developer. The development of open learning requires imagination, time for thinking and very good networks.

SUBJECT CONTENTS

ETDEWEB Access

The *ETDE Energy Database* contains a wealth of information on a variety of energy-related topics. While primarily considered a scientific and technical database, users will also find information targeted to policymakers and consumers. Thanks to the addition of subject-related categories and thesaurus terms (keywords) being added to records in the database, users can better target the information to get more precise results than are usually possible by just using Internet searching. The following pie chart represents the subject contents of the database for the last five years (2004-2008). These are very broad categories, but represent the diversity of coverage. The high percentages in the physics and materials area, although valid, are a bit higher than normal due to recent work with publishers to cover some older material.

Subject categories are used by ETDE to classify records. Typically, these fall into four general types:

- (1) Those representing energy sources, *e.g.*, Coal, Lignite, and Peat, Solar Energy, Wind Energy;
- (2) Those representing energy production, utilization, and management, *e.g.*, Fossil-fuelled Power Plants and Energy Conservation, Consumption, and Utilization;
- (3) Those representing energy conversion and storage, *e.g.*, Direct Energy Conversion and Energy Storage;
- (4) Those accommodating the basic information developed in support of energy production, conversion, and utilization, *e.g.*, Chemistry and Physics.

The table below shows a more in-depth look at the subject categories (category numbers are in parentheses) used for the database and provides users with a better idea of the breadth of what can be found. For even greater detail, users have access to both the full subject categories publication and subject thesaurus published jointly with the International Nuclear Information System (INIS) available in the reference aids section.

Tools, Techniques and Modes of Evaluation

There is no gainsaying that tools, techniques and modes of evaluation employed by the school and teachers leave much to be desired. It has been observed earlier that undue reliance has been placed on the paper pencil tests to measure the progress of the learners, even in the areas of learning where such a tool is found to be totally inadequate, if not altogether irrelevant or unsuitable.

There is indeed a dire need to employ a *fight* technique or use an appropriate tool or a mode to assess the performance of the learner, making a judicious selection from among available tools and techniques such as observation schedules, rating scales, interviews, oral communications, interest inventories, anecdotal records,

etc. It is also necessary to deformalise both internal and external examinations. It is time that more and more informal means of evaluation are adopted in order to reduce the anxiety and fear experienced by the learners at all stages of school education. The principles of relevance and flexibility applicable to curriculum development need to be followed in evaluating the attainment of the learners.

The primary stage should be considered as a period of transition from learning through informal playway activities to learning with the help of organised and formal methods of teaching. Similar informal and relaxed me.

National Curriculum thods and modes should be adopted in evaluating the growth and development of the young learners. No rigid and/or formal testing should be introduced at this stage. More use of oral testing should be made to assess the development of basic skills in language, numeracy, and health, nutrition and sanitation. Periodical check-ups of physical, social and emotional growth and development should be made and carefully recorded. Similar efforts should be made to record evidence regarding psycho-motor skills related to non-scholastic areas such as Work Experience, An Education and Physical Education. In a nutshell, sufficient evidence should be collected with the help of informal and formal observations and other tools and techniques mentioned above in order to prepare a/profile of the growth and development of every learner.

From the middle stage onwards, written tests and examinations may be given more emphasis and importance, without discarding the good practices, modes, tools and techniques that are initiated at the primary stage.

THE NATURE AND PURPOSE OF EVALUATION

- A. Anything in the schools can be evaluated in terms of its contribution to the students' overall learning and its cost.
- B. Evaluation — gathering data to support a decision to accept, change, or eliminate something.
- C. Evaluation serves to identify strengths and weakness of curriculum before implementation and the effectiveness of its delivery after implementation.
- D. *Evaluation Questions:*
 1. Intrinsic Value-Is the planned curriculum “good” and “appropriate”? Assessments vary depending upon each person's philosophical and psychological orientation and the extent of agreement among “experts” in relevant subject areas.
 2. Instrumental Value-Will what is planned to address the stated goals and objectives, and who is the intended audience (target population)?
 3. Comparative Value-Is the new programme better than the old one? Comparative bases include student achievement, delivery cost, demand on resources, and responsiveness to community expectations. Most crucial question.
 4. Idealization Value-How can the new programme be improved?

5. Decision Value-Will the evaluation process provide the evidence needed to determine whether it should be kept, changed, or eliminated. Same as 3.
- E. *Long-term assessment is important:*
1. Project Talent
 - a. Initiated in 1960 with the testing of 400,000 secondary school students (interests, ability scores, and characteristics of schools, including course offerings)
 - b. Fifteen years later (1975) a representative sample of the students were interviewed and reported their satisfaction with different aspects of their lives.
 - c. *Findings:*
 - (1) In 1960 47% of the graduating boys and 38% of the graduating girls said their courses were NOT helpful in preparing them for occupations. In 1971, 46% of the males and 40% of the females still felt that high school had been adequate at best.
 - (2) Were that educational programmes should be modified to enable people to achieve greater satisfaction in intellectual development and personal understanding.
 2. *National Assessment of Educational Progress (NAEP):*
 - a. An information system which provides information regarding the educational achievements of children, youth, and young adults, and indicates both progress and problems.
 - b. Reports test results by age and grade level.
 - c. NAEP reported in 1982 that most improvements in mathematics achievement are limited to lower order skills—simple computation.

USE OF THE EVALUATION

Be sure that the presentation of the evaluation satisfies the interest and takes into account the understanding of the addressees of this evaluation. Not all stakeholders are interested in the same aspects or indicators or have the same level of understanding of scientific language.

Be aware that an outcome evaluation is also very important for the internal dynamics (staff, stakeholders) of your intervention; it may be seen as a threat to the established modus operandi or as a means to improve performance, to question and remodel the usual approaches.

Again, pull together all relevant information that explains your outcomes in theoretical and factual contexts and shows that they are result of inputs, target group situation, social and other conditions and the evaluation design.

Notes (On Terminology)

Outcome evaluation assesses the result in terms of achievement of objectives set (were the objectives attained?).

Impact evaluation assesses the results beyond the achievement of objectives set (greater range of results which were not explicitly and previously planned).

At the end of this step, you will ideally have achieved the following:

- You will have a data gathering and analysis plan as well an idea of which most evaluation design is most feasible. This is realistic and within the scope of your intervention's resources.
- You will have made a pragmatic decision on the most realistic evaluation to be used (not all interventions have the resources and real-world conditions needed to conduct a randomised controlled trial).
- You will know what 'outcome' means in your intervention, *i.e.*, what works best for whom (of the target) under which conditions.
- You will know from whom the outcome information was gathered, whether the intervention had any effect on target group behaviour and in which target (sub)groups, and whether the intervention actually achieved its purpose.

Logic model key questions: Are all indicators now plausibly and logically connected to the objectives set? Is the whole evaluation design and framework linked to and mirroring the theory base and the concrete components of this intervention?

Problems you will face if this phase is not carried out correctly:

- Without an outcome evaluation, your intervention can still be interesting, but it will attract much less attention than a well-thought-out, even simple, outcome evaluation design.
- You will have spent (mostly public) money without showing that you have used it sensibly.
- The staff involved in your project will not know if their efforts have made any real difference and will be less likely to have grown professionally.
- All you can provide are some positive statements about non-quantified and non-attributable improvements after the intervention, which can easily be contested. A pre–post design is much more convincing.
- You continue to act as you always did in the past. You fail to take a critical view that enables you to revamp your evaluation or dynamise your approach. In other words, you lose the opportunity to improve your intervention.
- Your evaluation does not achieve its full potential (*e.g.*, the indicators of a life skills programme should be related to life skills components and not just the information level of the target population).
- You have told the stakeholders (and the EMCDDA EDDRA manager) that your intervention has an outcome evaluation, but this is not the case because none of the indicators refers to any variable related to the target group.

What's the Difference Between Learning Outcomes and Learning Objectives?

Learning Objectives:

- Tend to describe specific, discrete units of knowledge and skill
- Were useful during the 1970's and 1980's when attempts were made to describe workplace activities as specific tasks to be completed

- Can be accomplished within a short time frame-still may be relevant for a class period
- Tend to be statements of intent; do not necessarily suggest that the behaviour has been demonstrated

Learning Outcomes:

- Describe broad aspects of behaviour which incorporate a wide range of knowledge and skill
- Increased use in the 1990's when workplace requirements involve broader skillsets which are transferable to a wide range of work settings
- Accomplished over time in several learning experiences
- Refer to demonstrations of performance

More about the difference between Learning Outcomes and Course Objectives:

Learning outcomes tend to represent the "big picture" as opposed to the specific details and discrete aspects or chunks of performance.

In the 1950's and 60's, the emphasis was on a person doing specific job tasks which required specific knowledge for an extended period of time. In contrast, rapid technological changes of the 1990's require that the worker readily and repeatedly adapt to new job skill requirements which emphasize an ability to focus on broader concepts. As part of this new workplace structure, the ability to work in teams has been increasingly emphasized. Curriculum design trends have undergone similar transformations. Behavioural objectives of the 60's and 70's which described very specific and detailed aspects of behaviour, have now been replaced with the broader learning outcomes statements that incorporate broader aspects of performances. These performances have a variety of knowledge, skills and attitudes embedded within them.

Contrast the following behavioural objective statement:

- *Given a paragraph of ten sentences, the student will be able to identify ten rules of grammar which are used in its construction with the Learning Outcomes statement:*
- *The student will have reliably demonstrated the ability to use the conventions of grammar when creating paragraphs.*

How might the learning activities and methods of assessment differ in view of the two statements? As another example, consider the following statements:

Learning Objective: At the end of this class, the learner will be able to:

- Define affirmative action;
- Describe three factors which promote affirmative action in the workplace.

Learning Outcome:

At the end of this course the learner will have reliably demonstrated the ability to develop affirmative action programmes within a workplace environment.

THE IMPORTANCE OF EVALUATIONS

One of the methods used in evaluating curricula is by using external curriculum evaluations. This approach to evaluation mainly uses people from outside the system, those with the expertise.

The factors that contribute to organizing external evaluations are: the need for independence, the span of control, legal requirements that are contractual and of course, the expertise involved in conducting the evaluations. Experts from different government bodies are asked to evaluate programmes as in the Mongolian example:

- *Mongolia*: The State Education Inspection Board, inspectors of local education with support from former parents, school governing board and local administration organize the external supervision. Inspection results are analysed and the processed information is submitted to relevant organizations and individuals, and used to effect changes in their policy and planning. The example from the Philippines shows that it is important to have external evaluators who are familiar with the type of evaluations they have to carry out:
- *Philippines*: ‘The monitoring is done both at the national and local levels and a curriculum support desk has been organized to continue to receive feedback from the field and to respond to urgent concerns. External evaluators are also welcomed provided they have been oriented on the restructured curriculum.’

Another approach to evaluation is internal evaluation. This may be carried out either on a centralized or decentralized basis. A centralized system would require the formation of an evaluation unit within the system itself and one of the points mentioned in a decentralized system would be the use of existing, permanent groups within the system. ‘Curriculum evaluation may be organized so that it is carried out by departments.’

- *Malaysia*: Monitoring and evaluation are normally carried out in every phase of curriculum implementation. In addition to supervision the school inspectors and subject supervisors at the State Education Departments, monitoring and supervision are also carried out by the various divisions within the Ministry of Education, *i.e.*, Curriculum Development Centre, Examination Syndicate, the School Division, Teacher Building the Capacities of Curriculum Specialists for Educational Reform

Sources That Initiate or Feed Change

Education Division and Education Planning and Policy Research Division. The area of focus differs for each division. The example that follows illustrates monitoring of programmes to generate information to serve as a contribution to decisions about programme continuation.

- *Thailand*: Each Educational Institute is expected to design the monitoring system and evaluation scheme to provide relative feedback for the continuing revision of school-based learning contents along with implementation. The main purpose of evaluation is to facilitate or improve programmes or projects, by judging them. Judgements are made mainly on the basis of what has been observed, and this helps to modify or change a particular programme, project or curriculum. This trend can be observed in the following country examples:

- *China*: Regular assessment should also be undertaken at school level for principals, teachers, students, parents and community members to review the newly introduced curriculum and to take necessary initiatives to strengthen the effectiveness.
- *Malaysia*: In order to ensure smooth implementation of the national curriculum, several subject committees at the national level have been formed particularly for subjects like national language, English, mathematics and science. The role of such a committee is to review regularly the effectiveness of the teaching and learning of the subjects concerned. Changes in the curriculum contents are made based on the recommendations of the committees. Other subject committees are formed from time to time to review the subject curriculum and make recommendations for improvement. By using the opinions expressed by the general public, Mongolia has been able to revise its teaching content and the methods used in teaching and learning:
“The main purpose of evaluation is to facilitate or improve programmes or projects, by judging them. Judgements are made mainly on the basis of what has been observed, and this helps to modify or change a particular programme, project or curriculum.”

Research-based Studies to Evaluate Success and Failure

- *Mongolia*: In the activities of the school-based content and in order to create an environment for application of the content, an opportunity was opened to broaden participation of the general public by implementing projects and programmes. At present this type of activity has a most important role in the revision of teaching and learning content and methodology.
- *Viet Nam*: To prepare for curriculum development, there is a lot of research on the theory and practice of curriculum renovation and methods of general education [...] Based on this research, the orientations and principles, procedures for developing curriculum are built to be a basis for the development of curriculum. The task of soliciting comments and evaluation play an important role in the finalization and institutionalization of the new curriculum. The following are country examples that indicate the results of the evaluations conducted at various levels of curriculum implementation. Based on the results, changes are brought about regarding the utility and appropriateness of the assessment, and this helps in decision-making concerning improvements or modifications to curricula. This is very clearly expressed in the example from China:
- *China*: ‘Research-based studies on the state and effectiveness of various aspects of the national curriculum and its implementation, including the effectiveness of curriculum content, existing pedagogies and instructional approaches, teacher training, and of textbooks and instructional materials

have been arranged. For example, MOE has organized the experts and professors of key education institutes or universities to collect and review all the senior high school entrance examination paper. The results and recommendations have been used for monitoring and improving examinations, and to guide the teaching reform.' From the presentation at the Seminar, an example from Indonesia shows that:

- The Curriculum Development Centre carried out an **evaluation** on the implementation of the 1994 curriculum. The findings show that there are still some unsolved Building the Capacities of Curriculum Specialists for Educational Reform problems, such as the existence of some disconnections, overlapping of content, and even misleading curriculum implementation, particularly for the subjects of Sports and Art. Therefore, these misconceptions were righted by providing a Curriculum Supplement Document for all subject matters and for all levels (...) for the purpose of selecting(reducing and adding) content. The example from Japan clearly elaborates the steps that the country has taken towards introducing revisions in the teaching methods, teaching objectives, and teaching content of particular curricula:
- *Japan:* The Ministry of Education has been conducting nationwide surveys on students' achievement in some subject area. The purpose of this survey is to evaluate the effectiveness of implementation of the National Curriculum Standards. The results of this survey are to be used to improve the methods of teaching and learning in a nationwide perspective and to design more effective Curriculum Standards in the near future (...) This implies that we should put more emphasis on developing children's number sense, as well as on introducing children's hands-on activities in mathematics classrooms. These survey results and analysis have been used in the process of revising the objectives and teaching content in the Curriculum Standards for mathematics. With the help of research conducted by the NRIES, Laos PDR has been able to take steps towards improving learner performance and quality education, enhancing mother-tongue use in schools with positive outcomes, and conducting action research in Science and Mathematics education. NRIES staff has led three evaluations:
- To study the situation of organization of teaching-learning, the effects of national teacher orientation workshops, the use of textbooks and teacher's guides and to assess student learning outcomes. The evaluation findings indicated satisfactory achievements. The new curriculum was relevant to the student needs and the requirements of local and national development, and has contributed to the improvement of learning performance and the quality of education.
- A study of teaching Lao PDR for ethnic minority children and youth has been conducted in order to enhance language macro skills, such as listening, speaking, reading and writing. The research team has advanced

the hypothesis that by possessing adequate language skills, the ethnic minority youth would be able to improve learning of other academic subjects: mathematics, sciences, social studies, technology, *etc.* The team decided to try out the concentrated language encounters techniques adapted to the learning environment in ethnic minority areas by taking into careful account the specific features of ethnic languages and dialects. As a result, the student learning outcomes have considerably improved; both teachers and learners were also motivated to learn.

- Another aspect of enhancing learning achievements and teaching effectiveness at the secondary education level is related to action research conducted by NRIES Mathematics and Sciences Division, in cooperation with teachers of the Vientiane municipality secondary schools and professors of the National University. The research findings show that most of the students lack the focus in reading books and extracting useful information for using as the basic data for constructing or discovering knowledge. It is recommended to promote reading skills and introducing the reading techniques in school. In the Philippines, by using the information gleaned from reviews and studies, there was evidence to show that the curriculum needed to cut down on overcrowding:
- *Philippines:* A core group was organized to continue the study of the curriculum and to consolidate and study the results of the previous surveys, studies, consultations and reviews. [...] All of the reviews and studies point to the low student performance. A number of factors are consistently identified as contributory to this problem, such as inadequacy of funds, prior preparation of teachers, high drop-out rate, high level of illiteracy, insufficiency of instructional support and facilities (*e.g.*, laboratories, libraries, *etc.*) The major studies all recommend the need to decongest the curriculum. On the other hand, in the Philippines, studies also pointed out to the necessity for introducing analytical methodology in the curriculum:
- As regard secondary education, the Committee on Information Technology, Science, Mathematics Education and other Technologies states: ‘The New Secondary Education Curriculum (NSEC) deserves a second look. It must be vis-à-vis the NSAT (National Secondary Achievement Test) results of the last four years where the students achieved mean percentage scores of only about 50%. Building the Capacities of Curriculum Specialists for Educational Reform. The lowest scores were recorded in Science and Mathematics indicating that these are the most difficult subjects for the students, and for which additional contact time may be needed and innovative teaching techniques should be devised to make them interesting and less daunting to students. The basic education curriculum should be streamlined such that it will provide for greater concept understanding, mastery of skills (*e.g.*, critical thinking and other scientific skills) and appreciation of science and technology as applied to daily life.’

As we have seen from the examples above curriculum quality is important to maintain, and standards of quality in education are achieved by constantly studying the worth and merit of educational curricula. The main focus of curriculum evaluation is looking at the policies that have been put into action—the structure and framework of curriculum development: curriculum design; the various instructional products and materials that are used; where the objectives of student outcomes can be analysed; checking/testing student progress; the effectiveness of teaching and teachers or instruction outcomes; the learning environment and finally the monetary resources available. Through educational evaluations, all these factors result in measuring the effectiveness of educational policies that are implemented in the curricula development process.

APPROACHES TO CURRICULUM EVALUATION: (A) FORMATIVE AND SUMMATIVE, (B) CONTINUOUS AND COMPREHENSIVE EVALUATION

APPROACHES TO EVALUATION

A. Scientific:

1. Behaviourally oriented people tend to look at evaluation as a connection between what is and what all agree ought to be.
2. Ideal is a pretest-posttest, experimental-control group design
3. Focus is typically on learner outcomes as reflected in quantitative forms such as test scores that are amenable to statistical analysis.

B. Humanistic:

1. Humanists tend to look at evaluation in terms of the different values of all programme participants and in terms of the perceived value of the processes and activities of the programme.
2. Data gathered is more qualitative than quantitative—descriptions of events rather than judgments of event.
3. Patterns observed from many observations form the basis for decisions.

C. Intrinsic and Pay-Off Evaluation:

1. Intrinsic evaluation focuses on the curriculum design and development.
 - a. Worth of goals and objectives
 - b. Appropriateness of content
 - c. Types of learning activities.
2. Pay-off evaluation focuses on the usually short-term effects of the curriculum.
 - a. Extent to which the objectives were achieved
 - b. Effects on parents, teachers, administrators
 - c. Often regarded as more important than intrinsic evaluation.

- d. Advocated goal-free evaluation in which evaluators look at all the results of the curriculum (unexpected side effects, overlooked achievement, new priorities), instead of looking only at those effects that were anticipated (such as higher tests scores).

D. *Formative and Summative Evaluation:*

1. *Formative evaluation:*

- a. Takes place at specified points during the development and pilot testing phases of curriculum building in order to identify and correct problems before the curriculum is put into full operation.
- b. Can be used during actual operation to fine tune the curriculum.
- c. Norman Grunlund advocates looking for and assessing unintended effects.

2. *Summative evaluation:*

- a. Follows full implementation and focuses on overall effectiveness.
- b. May take place at designated end points throughout the curricular design such as at the end of the pilot testing stage and the end of the implementation stage.

A NEW APPROACH OF CURRICULUM DEVELOPMENT

The current trend is to promote networked curriculum development with several interactions (top-down and bottom-up), while trying to take into account the needs—not only the educational requirements—and to rebuild the way of conceptualizing reality and education systems, in order that political authorities are no longer found at the top, but in the centre of curriculum development dynamics. These authorities thus become stimulating bodies that promote multiple interactions between teaching institutions and society, jointly defining the meaning, the knowledge, the methods and the spaces of education. There are several groups working on the curriculum. Nevertheless, comparative studies on the curriculum are not yet abundant. The discipline “comparative education” has rather dealt with issues such as the definition of educational policies, education system structures and trends of schooling worldwide. In recent years, however, a need for more comparative research in the field of the curriculum has come to the fore.

Indeed, in recent years, various comparative research projects on students’ learning achievements have been carried out, especially in the most advanced countries of the world. These research programmes could be considered as producing an “international evaluated curriculum”, although this issue has not set off much reaction among the international community. On the other hand, the gathering and analysis of information on the curriculum offered to teachers and as taught in educational institutions is not sufficiently developed. To meet existing needs in terms of information, especially for better promoting education to live together in an increasingly interdependent world, UNESCO’s International Bureau

of Education (www.ibe.unesco.org), based in Geneva, has received a new mission. Within the framework of this mission, the IBE is one of the sources giving access to information about curricula in the contemporary world and contributing to comparative education.

ISSUES RELATED TO CURRICULUM APPROACHES

Education in South Africa is facing great curriculum-related challenges. Teachers are principal role-players in the process of meeting these challenges. The questions remain whether they do indeed participate fully, or are even allowed to participate in the process, and if they do participate, what is the nature of their involvement?

Within the present context and development in which stringent demands are made on teachers, and change in the educational arena has not yet stabilised, it is imperative that there should be dialogue about what is expected of teachers when it is suggested that they should be “more involved in curriculum development” or rather that their “voice” must be accommodated. In this paper a theoretical underpinning is provided for the concept teacher involvement in curriculum development. The theoretical underpinning will be based on the most recent literature regarding the role and function of the teacher in curriculum development.

It is however necessary to investigate to what extent this phenomenon of teacher involvement are actually accommodated in actual practice. In the second section of the paper the focus will be on data generated during a recent research project in a South African context regarding teacher involvement in current curriculum changes. This data will highlight teachers’ perceptions and the nature of their involvement. In the final instance it provides evidence on the actual involvement and to what extent teachers’ “voices” are indeed accommodated and included when curriculum decisions are made.

It can only be concluded that what one finds in the literature and what happens in the curriculum practice, are often worlds apart and that the “voice” of the teacher is to a large extent ignored or not heard. And this will have a major impact on the effectiveness of learning!

There are several views of curriculum that often encounter. One is that teachers, especially elementary teachers, are so under-prepared in mathematics that the curriculum must do everything for them. It must tell them exactly what to do, when to do it, and in what order. Once this was called “teacher-proof” curriculum. Now, of course, that term is no longer fashionable, so teacher-proofness, when it is espoused at all, is couched in other terms. For example, a textbook representative recently described to me the lessons in their teacher’s guide by saying, “And it’s all scripted for the teacher, so that they know what questions to ask.” This view of curriculum assumes that there is a Right Way to organize and teach the curriculum, and that, if we have a curriculum that embodies this right way, students will learn mathematics well.

Another view holds that it is only the teacher who knows her students’ learning needs well enough to continually modify the classroom environment in response

to those needs. Therefore, the teacher must develop her/his own curriculum. Sometimes this view admits that, because teachers are not *yet* adequately prepared to teach mathematics, we may need innovative curricula now — temporarily — *until* we have accomplished the job of large-scale teacher development. This is the view of curriculum as a necessary evil — we don't want it, but we can't yet do without it.

A third view, somewhere between these two, is that of curriculum as reference material. The argument goes something like this. Teachers don't have the time or energy to develop all the curricula for all the subjects they teach. Therefore, they need good reference materials from which they can put together a curriculum of their own. This allows teachers to be creative and to become acquainted with new ideas. The curriculum is a reference library in which teachers browse.

We disagree with all of these positions. Or, perhaps, since all of these have probably been somewhat unjustly characterized, it is more accurate to say that we are trying to find some new ways to articulate what curriculum contributes to the learning and teaching of mathematics. This new articulation is possible, and necessary, because new curricula that are currently being developed are quite different from our traditional notion of what a curriculum is and make possible a different kind of partnership between teacher and curriculum materials.

Perhaps we have been without “good” curricula for so long that we have very low expectations about what curriculum materials can provide. We are used to thinking of a curriculum as something that robs the teacher of her professional judgment and/or does not model mathematical thinking and reasoning as promoted in the NCTM Standards. We would like to put forth a new view of what curriculum can be. We believe that curriculum materials, when developed through careful, extended work with diverse students and teachers, when based on sound mathematics and on what we know about how people learn mathematics, are a tool that allows the teacher to do her best work with students. As these new curricula begin to appear, we need new ways to think about the role of curriculum.

We see the best mathematics teaching environment as a partnership between teacher and curriculum. Both teacher and curriculum bring important contributions to this partnership that the other cannot do well. It is not possible for most teachers to write a complete, coherent, mathematically-sound curriculum. It is not insulting to teachers as professionals to admit this. Curriculum development, like teaching mathematics, is a job that requires people and resources; it requires a skilled team of mathematics educators spending many thousands of hours writing, thinking, working in classrooms, and listening to students and teachers. We do not sell teachers short by recognizing that they cannot do this job.

But only the teacher is there in the classroom, observing and trying to understand her students' mathematical thinking. Individual teachers must continually assess and modify their mathematics programme for their own classroom. Thus, curriculum is not a recipe or a compendium of what “should” be taught at a

particular grade level. Rather, it provides both a coherent mathematics programme for students, based on the best thinking available in the field, and material that supports teachers in making better, more thoughtful, more informed decisions about their students' mathematics learning.

The link between curriculum and teacher decision-making is a focus on mathematical reasoning. Neither curriculum nor teacher can fully anticipate the complex and idiosyncratic nature of the mathematical thinking that might go on among thirty students in a single classroom during any one mathematics class. However, both teacher and curriculum contribute to a repertoire of knowledge about student thinking that leads to better mathematics teaching and learning.

How does this work? Each curriculum unit presents a few, related significant mathematical ideas. The curriculum provides four types of information about these ideas: a series of activities for students, explication of aspects of the mathematics content, discussion of students' mathematical thinking in the context of this particular content, and pointers towards issues of pedagogy that arise as students engage with the content. Only the first of these is something provided directly for students; much of what the curriculum provides is for teachers. Curriculum is, in fact, primarily a tool for teacher development. This is a radically different conception of curriculum; it is one that makes it possible for teachers to truly be in partnership with the curriculum rather than simply using it as a guide for sequencing student work.

In order for this partnership to work, curriculum must do its job. What it provides for students is important, but what it provides to support teachers is equally important. Curriculum can only support teachers honestly if it has been developed through intense partnerships with teachers and students. In this kind of development work, curriculum authors are in classrooms *frequently*, each part of the curriculum is thoroughly field-tested in diverse classrooms, and field data are carefully reviewed to inform revision of the materials. This kind of development process results not only in good investigations for the range of students, but also in a wealth of information about how students approach those investigations, what mathematical issues are central to their understanding, what pragmatic and pedagogical issues arise for the teacher, and ways in which teachers can modify and/or extend the investigations to suit their individual class. The curriculum materials must then be designed so that this information is available to the teacher. Let me give an example from a recent episode in a field test classroom of how this works. (Teachers quoted in this essay are participants in an NSF-funded project, Teaching to the Big Ideas, a joint project of EDC, TERC, and Summer math for Teachers at Mt. Holyoke College. Pseudonyms are used.)

Meg, a second-grade field test teacher, is using an activity called "Enough for the Class," in which students consider whether the number of cubes in a bag is enough for each student in the class to have one. If it's not, how many more are needed? If it is, are there extras? Meg thinks of this problem as a subtraction

situation and assumes that her students will do something like the following sequence of steps: 1) find out how many cubes are in the bag; 2) remove the number of cubes equal to the number of students in the class; 3) figure out or count how many cubes remain.

One day she gives them the following problem: there are 16 blue cubes and 17 red cubes; are there enough for the class? Students quickly decide that there are enough for the class of 26 students and begin figuring out how many extra cubes there will be. Meg is taken by surprise when some of her students solve the problem this way: I can take 10 cubes from the 16 and 10 cubes from the 17, that makes 20. Then I need 6 more cubes, so I take away 6 from the 16. Now I have 26, enough for the class. That leaves just the 7 cubes from the 17, so there are 7 extra. Without ever finding the total, Meg's students have solved the problem. Meg wrote about this episode: "Many children actually did solve the problem the way I expected. Many didn't... They showed a lovely ability and willingness to take numbers apart and put numbers together. They... had made sense of what was being asked. But they still didn't figure out how many cubes there were in all! I am not sure what surprises me more — that so many children don't think explicitly about the whole or the total when solving these problems, or that it never occurred to me that they didn't have to."

This is exactly the kind of episode that finds its way into the curriculum itself. We may include a classroom dialogue, based on this episode, to provide teachers with illustrations of the kinds of issues that tend to come up as students talk about their approaches to a mathematical problem. In addition, we would include notes for the teacher about the mathematical issues raised in this episode, in this case, the relationship between addition and subtraction in the structure of this problem and how students' strategies are related to their understanding of the number system.

Episodes like this one provide guidance and examples for teachers who may encounter similar mathematical issues in their classrooms. They alert teachers to important mathematical ideas they may have been unaware of, and they provide guidance about engaging students with these ideas. In many ways, each mathematics unit of study, then, becomes a minicourse for teachers about a particular domain of mathematics.

As teachers use new curriculum units more than once, they can learn more mathematics and more about their students' mathematical thinking. What they learn from watching and listening to their students will illuminate what they read in the teacher book, while what they read there will alert them to how to better listen and watch. Curriculum must help the teacher assess her students' understanding throughout the year, provide models of mathematical talk that stimulates and supports student thinking, and offer ways for the teacher to learn more about the mathematics she is teaching.

7

Teacher Skills, Confidence and Attitudes to Innovation

One of the most persistent issues encountered during our research has been the ongoing challenge of professional development. Innovation can vary according to context and there is a need to acknowledge this rather than attempting to define a crude benchmark. Contributors at the Innovation Forums also noted the need to provide time for practitioners to investigate and "play with" new technologies; to build the confidence needed to take risks and to be prepared to admit any lack of knowledge.

Indeed, some teachers still see technologies as making their professional lives more difficult and specifically some perceive mobile learning as eroding their authority. Some staff involved in the Royal Veterinary College project did not see mobile phones as appropriate for learning believing that they were more suitable for texting and playing games - they also felt that parents shared this view. There were fears about student's videoing lessons and posting these to YouTube.

Therefore, a significant challenge to adoption reflects the attitudes of teachers towards technologies. There is a perceived generational divide in the teaching profession although this is much more complex than often portrayed. Younger teachers may be less fearful of new technologies but that confidence does not automatically translate into classroom practice. We also found some suggestion that (older) teachers with teenage children were quite comfortable with new technologies since they were familiar with these from their home Environment. The above reflections should not imply negativity or pessimism.

It is clear that there are numerous examples of "innovation" across all sectors of education. Many teachers then are obviously managing their risks as they investigate new technologies. The value of one-to one support is recognized and appreciated but there are fears about what happens when this person moves on, and they are invariably in demand. However, Yewlands used the role as a catalyst and seem to have handled the transition to "innovation" becoming embedded (albeit within a small group and sustainable).

Informal peer support networks are seen by practitioners as valuable although the actual benefit is hard to substantiate. Consideration that CPD strategies are context specific is also an important factor. It is crucial is for institutional leaders to create and maintain a supportive learning environment for teaching staff.. Currently, there is a role for Local Authorities or other bodies (including perhaps industry) to support where wider dissemination and adoption is actively sought.. It is unclear how this will evolve in the more devolved landscape we may observe in the near term.

TOOLS RELIABILITY

Research explores that whether considering e-assessment, mobile learning, cross contextual learning or CPD, a persistent theme is the reliability and predictability of the Technology infrastructure. Somewhat surprisingly perhaps, some teachers and institutions also feel inhibited by existing pupil-to-device ratios, which remain far from one-to-one. Even today the quality of the technical infrastructure varies greatly from institution to institution. In some cases the pressure for more devices and a higher functioning infrastructure is a consequence of wide-scale innovation within the institution, whereas in others it may be due to insufficient or injudicious investment.

Since we are unlikely to see again (in the near future at least) investment in technology on the scale of recent years there is a pressing need to reconfigure technical support services, exploit new technological paradigms such as cloud computing and thin client solutions and/or encourage the integration of user-owned devices on the institutional network - on and off campus. However, each of these brings with it new considerations - key amongst these is the need for technical staff to have access to ongoing, high-quality professional development opportunities.

Two interviewees from different backgrounds and perspectives observed that the average Building Schools for the Future secondary school has a far more complex IT infrastructure than 90% of businesses in the UK. Whilst many schools are yet to benefit from BSF, and we note the disparities, many have also had significant investment in their technology infrastructure. This would seem to imply that there is the potential for some students to experience a technology rich learning environment which may well be the equal of, or better than, that they will experience in employment, Further or Higher Education.

However, our interviewees reported that, by comparison with businesses, schools investment to support the infrastructure is typically low. Just as the

prospect of sudden increases in capital investment catalysed leaders to look at the Total Cost of Ownership (TCO) of their technologies and to establish appropriate technical support structures then the need to maximise reduced capital (perhaps through a move to user owned or hired devices, cloud computing, *etc.*) and to exploit the existing investment should inspire a similar review. The potential to reconfigure support in order to improve the curriculum experience is illustrated in the Wickersley Case Study (Ugochukwu, 2010) which investigated the implementation of the Framework for IT Support (FITS).

The application of FITS processes has the potential to free up resource to support curriculum innovation and can lead to improved relationships between staff and between staff and students.

APPROPRIATION OF AVAILABLE TOOLS FOR EDUCATION USE

Probes on Action Research Projects and Case Studies it is found that schools were sometimes inhibited by their use of tools which were not designed specifically to meet their needs. Djanogly City Academy was keen to exploit the social tools which students used outside of school. However, the tools they wished to use such as Face book were deemed inappropriate within the school environment in terms of pupil safety and network security - and in the ability to track students' work. Djanogly to develop a bespoke platform have proved somewhat frustrating.

The school also point out that they have invested significant resources - something which may well prove prohibitive for most institutions and indeed is increasingly unlikely in the current financial climate. Whilst investigating the potential of technology to support higher order thinking skills, an interviewee suggested that an important issue was the way in which some tools actually constrain higher order thinking by being too specific thus reducing the ability for the teacher to "take ownership" and adapt them for a particular context.

At Yewlands Technology College where the teachers had used gaming devices initially with "gaming" in mind but had rapidly found these tools to have other applications we observed that: "Once familiar with the devices in an educational setting the staff began to push the boundaries of use. Whilst this was a very positive outcome, it became clear that they were using the technology in ways for which it was not designed. As a consequence, even the manufacturers were behind the curve and sometimes unable to respond quickly to requests for development." (Phillips, 2010b) However, the fact that the ability of these tools to enhance the learning experience has been recognised by the teachers concerned (by no means all of whom are "evangelists") and that they continue to find fruitful new ways in which these and other tools can support their pedagogies would seem to suggest that there is significant potential.

TECHNOLOGY AND YOUTH: WIRED SCHOOLS AND WIRED LIVES

A decade ago, access to technology was limited and wiring schools was one of the nation's highest education priorities. Ten years of substantial investments

have vastly improved this picture. According to the Secretary's Fourth Annual Report on Teacher Quality, virtually every school with access to computers has Internet access (99%), compared to only 35 per cent of schools in 1994, according to the National Center for Education Statistics (NCES). Public schools have also made consistent progress in expanding Internet access in instructional rooms, according to NCES.

In 1994, 3 per cent of public school instructional rooms had Internet access, compared with 93 per cent in 2003. And between 1998 and 2003, the student-to-connected-computer ratio went from 12-to-1 to 4.4-to-1. Along with expanded access has come a growing pervasiveness of technology in society. For a generation of young people, technology, particularly the Internet, has assumed a substantial stake in their social and educational lives. A recent survey conducted by the Pew Internet and American Life Project found that roughly 21 million youth between the ages of 12 through 17—approximately 87 per cent of the entire age brackets—use the Internet. Of those 21 million online teens, 78 per cent (about 16 million students) say they use the Internet at school. This translates into 68 per cent of all teenagers, up from 47 per cent in 2000. The survey also found that most teens believe that the Internet helps them do better in school (86 per cent of teens, 88 per cent of online teens). In a previous survey, the project found that 71 per cent of online teens said they relied mostly on Internet sources for the last big project they did for school and 34 per cent of online young people ages 12-17 download study aides from the Internet. The U.S., Bureau of the Census (2003) found that 57 per cent of all children in school ages 7-17 use a home computer to complete school assignments. Young people are also taking advantage of new, powerful communications tools. Three-quarters of online teens use instant messaging, representing close to 16 million youth. Of those 16 million, 78 per cent say they use instant messaging from time to time to talk about homework, tests, or schoolwork.

NCLB & HIGH STAKES TESTING

With the passage of the No Child Left Behind (NCLB) legislation in January 2002, testing has become not only more routine, but also increasingly high-stakes and focused more on specific content knowledge. Test results are regularly used as the measuring stick for student advancement to the next grade and as a gauge for judging the quality of schools and the educators who work in them. Therefore, efforts to integrate technology into schools and classroom practices must not only acknowledge but also provide evidence that technology assists in meeting these accountability demands.

STUDENT SKILLS AND ICT LITERACY: MEETING THE 21ST CENTURY CHALLENGE

Greater emphasis on high stakes testing has prompted greater scrutiny on what's being tested and how it relates to what students need to know to succeed in society, in part fueled by the poor performance of U.S., students on the

international assessments, PISA (Stage, 2005) and TIMSS, and rising concern about the relative competitiveness of the U.S., labour force. Government leaders ranging from Education Secretary Margaret Spellings to former Secretary of State Colin Powell have signaled that today's students are not prepared to compete internationally. Education and business leaders have also begun to question whether current assessments focus too much on measuring students' ability to recall discrete facts at the cost of not adequately measuring students' ability to think critically and solve problems, which some researchers assert produce, at best, only illusory student gains.

This questioning reflects the technological and business changes brought about by the Web, wireless communication and distributed work, which Casonato and Morello (2002) note have "introduced discontinuity in where and how people work, how their performance is measured, and how their objectives are set" where "assignments, work settings, peers, employers and work choices are increasingly changeable and fluid." The employer-centered workplace of predefined jobs and career paths has given way to a worker-designed environment where individuals pursue their own assignments and must effortlessly combine technical skills with an intellectual toolbox enriched with experiences, roles, team building, and knowledge. Similarly, some argue that today's students, surrounded by digital technology since infancy, are fundamentally different from previous generations and are no longer the people our educational system was designed to teach. As a result, a widening gap has formed between the knowledge and skills students are acquiring in schools and the knowledge and skills needed to succeed in the increasingly global, technology infused 21st century workplace.

As a first step towards bridging this gap, NCLB requires states to demonstrate that "every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability". While NCLB has established an eighth-grade technology literacy requirement, the requirement is not a full statement of knowledge and skills students need nor does it include a mechanism for ensuring accountability.

Numerous business, policy, and nonprofit organizations have developed policy reports and frameworks describing the need to improve children's higher-level technology-related skills and attempting to define those skills. While many different terms have been used to describe what students need, such as digital literacy, technological literacy, and 21st century skills, education leaders, nationally and internationally, are beginning to come together around a new common definition of what students need to know, Information and Communication Technology (ICT) Literacy.

ICT Literacy reflects the need for students to develop learning skills that enable them to think critically, analyse information, communicate, collaborate, and problem-solve, and the essential role that technology plays in realizing these learning skills in today's knowledge-based society.

Representative of the ICT literacy skills are the following six arenas critical to students' success in the workplace:

- *Communicate Effectively:* Students must have a range of skills to express themselves not only through paper and pencil, but also audio, video, animation, design software as well as a host of new environments (e-mail, Web sites, message boards, blogs, streaming media, etc.).
- *Analyse and Interpret Data:* Students must have the ability to crunch, compare, and choose among the glut of data now available Web-based and other electronic formats.
- *Understand Computational Modeling:* Students must possess an understanding of the power, limitations, and underlying assumptions of various data representation systems, such as computational models and simulations, which are increasingly driving a wide-range of disciplines.
- *Manage and Prioritize Tasks:* Students must be able to manage the multi-tasking, selection, and prioritizing across technology applications that allow them to move fluidly among teams, assignments and communities of practice.
- *Engage in Problem Solving:* Students must have an understanding of how to apply what they know and can do to new situations.
- *Ensure Security and Safety:* Students must know and use strategies to acknowledge, identify, and negotiate 21st century risks.

DIFFERENT TYPES OF TECHNOLOGY AND THEIR EDUCATIONAL APPLICATIONS

- Many different types of technology can be used to support and enhance learning. Everything from video content and digital moviemaking to laptop computing and handheld technologies have been used in classrooms, and new uses of technology such as podcasting are constantly emerging.
- Various technologies deliver different kinds of content and serve different purposes in the classroom. For example, word processing and e-mail promote communication skills; database and spreadsheet programmes promote organizational skills; and modeling software promotes the understanding of science and math concepts. It is important to consider how these electronic technologies differ and what characteristics make them important as vehicles for education.
- Technologies available in classrooms today range from simple tool-based applications, such as word processors to online repositories of scientific data and primary historical documents, to handheld computers, closed-circuit television channels, and two-way distance learning classrooms. Even the cell phones that many students now carry with them can be used to learn.
- Each technology is likely to play a different role in students' learning. Rather than trying to describe the impact of all technologies as if they

were the same, researchers need to think about what kind of technologies are being used in the classroom and for what purposes. Two general distinctions can be made. Students can learn “from” computers—where technology used essentially as tutors and serves to increase students basic skills and knowledge; and can learn “with” computers—where technology is used a tool that can be applied to a variety of goals in the learning process and can serve as a resource to help develop higher order thinking, creativity and research skills.

- The primary form of student learning “from” computers is what Murphy, Penuel, Means, Korbak and Whaley (2001) describe as discrete educational software (DES) programmes, such as integrated learning systems (ILS), computer-assisted instruction (CAI), and computer-based instruction (CBI). These software applications are also among the most widely available applications of educational technology in schools today, along with word-processing software, and have existed in classrooms for more than 20 years.
- According to Murphy et al, teachers use DES not only to supplement instruction, as in the past, but also to introduce topics, provide means for self-study, and offer opportunities to learn concepts otherwise inaccessible to students. The software also manifests two key assumptions about how computers can assist learning. First, the user’s ability to interact with the software is narrowly defined in ways designed specifically to promote learning with the tools. Second, computers are viewed as a medium for learning, rather than as tools that could support further learning.
- While DES remains the most commonly used approach to computer use in student learning, in more recent years, use of computers in schools has grown more diversified as educators recognize the potential of learning “with” technology as a means for enhancing students’ reasoning and problem-solving abilities. In part, this shift has been driven by the plethora of new information and communication devices now increasingly available to students in school and at home, each of which offers new affordances to teachers and students alike for improving student achievement and for meeting the demand for 21st century skills describe earlier. No longer limited to school labs, school hours and specific devices, technology access is increasingly centered on the learner experience.
- Bruce and Levin (1997), for example, look at ways in which the tools, techniques, and applications of technology can support integrated, inquiry-based learning to “engage children in exploring, thinking, reading, writing, researching, inventing, problem-solving, and experiencing the world.” They developed the idea of technology as media with four different focuses: media for inquiry (such as data modeling, spreadsheets, access to online databases, access to online observatories and

microscopes, and hypertext), media for communication (such as word processing, e-mail, synchronous conferencing, graphics software, simulations, and tutorials), media for construction (such as robotics, computer-aided design, and control systems), and media for expression (such as interactive video, animation software, and music composition).

- In a review of existing evidence of technology's impact on learning, Marshall (2002) found strong evidence that educational technology “complements what a great teacher does naturally,” extending their reach and broadening their students’ experience beyond the classroom. “With ever-expanding content and technology choices, from video to multimedia to the Internet,” Marshall suggests “there’s an unprecedented need to understand the recipe for success, which involves the learner, the teacher, the content, and the environment in which technology is used.”

RESEARCH RESULTS

- In their meta-analysis review of research conducted between 1993 and 2000 on the effectiveness of DES, Murphy et al (2001) found evidence of a positive association between use of DES products and student achievement in reading and mathematics, an association consistent with earlier reviews of the research literature on the effectiveness of computer-based instruction. Students in the early grades, from pre-K to grade 3, and in the middle school grades appear to benefit most from DES applications for reading instruction, as do students with special reading needs.
- In a 2000 study commissioned by the Software and Information Industry Association, Sivin-Kachala and Bialo (2000) reviewed 311 research studies on the effectiveness of technology on student achievement. Their findings revealed positive and consistent patterns when students were engaged in technology-rich environments, including significant gains and achievement in all subject areas, increased achievement in preschool through high school for both regular and special needs students, and improved attitudes towards learning and increased self-esteem.
- O’Dwyer, Russell, Bebell, and Tucker-Seeley (2005) found that, while controlling for both prior achievement and socioeconomic status, fourth-grade students who reported greater frequency of technology use at school to edit papers were likely to have higher total English/language arts test scores and higher writing scores on fourth grade test scores on the Massachusetts Comprehensive Assessment System (MCAS) English/Language Arts test.
- Michigan’s Freedom to Learn (FTL) initiative, an effort to provide middle school students and teachers with access to wireless laptop computers, has been credited with improving grades, motivation and discipline in classrooms across the state, with one exemplary school

seeing reading proficiency scores on the Michigan Education Assessment Programme (MEAP) test, administered in January 2005, reportedly increasing from 29 per cent to 41 per cent for seventh graders and from 31 to 63 per cent for eighth graders.

- In examining large-scale state and national studies, as well as some innovative smaller studies on newer educational technologies, Schacter (1999) found that students with access to any of a number of technologies (such as computer assisted instruction, integrated learning systems, simulations and software that teaches higher order thinking, collaborative networked technologies, or design and programming technologies) show positive gains in achievement on researcher constructed tests, standardized tests, and national tests.
- Cavanaugh's synthesis (2001) of 19 experimental and quasi-experimental studies of the effectiveness of interactive distance education using videoconferencing and telecommunications for K-12 academic achievement found a small positive effect in favour of distance education and more positive effect sizes for interactive distance education programmes that combine an individualized approach with traditional classroom instruction.

Boster, Meyer, Roberto, and Inge examined the integration of standards-based video clips into lessons developed by classroom teachers and found increases student achievement.

The study of more than 1,400 elementary and middle school students in three Virginia school districts showed an average increase in learning for students exposed to the video clip application compared to students who received traditional instruction alone.

Wenglinsky (1998) noted that for fourth- and eighth-graders technology has "positive benefits" on achievement as measured in NAEP's mathematics test. Interestingly, Wenglinsky found that using computers to teach low order thinking skills, such as drill and practice, had a negative impact on academic achievement, while using computers to solve simulations saw their students' math scores increase significantly. Hiebert (1999) raised a similar point. When students over-practice procedures before they understand them, they have more difficulty making sense of them later; however, they can learn new concepts and skills while they are solving problems.

In a study that examined relationship between computer use and students' science achievement based on data from a standardized assessment, Papanastasiou, Zemblyas, and Vrasidas (2003) found it is not the computer use itself that has a positive or negative effect on achievement of students, but the way in which computers are used.

Researchers are also making progress on the more complicated task of investigating the impact of technology use on higher order thinking skills as measured through means other than standardized tests. They are examining students' ability to understand complex phenomena, analyse and synthesize multiple sources of information, and build representations of their own knowledge.

At the same time, some researchers are calling for newer standardized assessments that emphasize the ability to access, interpret, and synthesize information.

- Research indicates that computer technology can help support learning and is especially useful in developing the higher-order skills of critical thinking, analysis, and scientific inquiry “by engaging students in authentic, complex tasks within collaborative learning contexts”.
- While research linking technology integration, inquiry-based teaching, and emphasis on problem solving with student achievement is emergent, some research exists that suggests a connection. In a 2001 study of Enhancing Missouri’s Instructional Networked Teaching Strategies (eMints) programme, a statewide technology integration initiative, eMINTS students scored consistently higher on the Missouri Assessment Programme (MAP) than non-eMINTS students, including eMINTS students classified as having special needs. The higher MAP results were found to be associated with the instructional practices. The eMINTS programme provides teachers with professional development to help integrate technology so that they can use inquiry-based teaching and emphasize critical-thinking and problem-solving skills.
- The programme has since expanded to not only Missouri schools and districts but also other states as well. Currently, 232 Missouri districts, 10 Utah districts, 56 Maine districts, 2 Nevada districts, and 1 Illinois district, representing 1,000 classrooms and 22,500 students now take advantage of the eMINTS programme offerings. Test results continue to show that, on most state tests, students enrolled in eMINTS classrooms scored higher than students enrolled in non-eMINTS classrooms and that low-income and special education students in eMINTS classes generally score higher than their non-eMINTS peers (eMINTS, 2005).
- Results from other studies (Perez-Prado and Thirunarayanan 2002; Cooper 2001; Smith, Ferguson and Caris 2001) also suggest that students can benefit from technology-enhanced collaborative learning methods and the interactive learning process.
- Roschelle, Pea, Hoadley, Gordin, and Means (2000) identify four fundamental characteristics of how technology can enhance both what and how children learn in the classroom:
 1. Active engagement,
 2. Participation in groups,
 3. Frequent interaction and feedback, and
 4. Connections to real-world contexts.

They also indicate that use of technology is more effective as a learning tool when embedded in a broader education reform movement that includes improvements in teacher training, curriculum, student assessment, and a school’s capacity for change.

FACTORS TO CONSIDER

Inclusion: Reaching all Students

A major concern of many educators with regard to educational technology is its potential to exclude those who may not have access to it, or may not be able to use it. Regardless of what research may indicate concerning positive effects of technology on student learning, technology will be of limited use in achieving the goals of NCLB if it is not available to all students.

Students at Risk

Research demonstrates that the challenge of helping teachers and students achieve ICT literacy, and the challenge of establishing frameworks for assessing their skills, is most acute in schools serving low-socioeconomic, minority students. While public debate about the digital divide centers on basic technology access, the gap is even wider when measured by the pedagogical practices associated with technology use in different schools.

More than half (53%) of teachers in public schools who have computers use them or the Internet for instruction during class. But in schools whose students are from higher-income families, 61 per cent of teachers with computers use them in class compared to 50 per cent of those teaching in schools with lower-income students. And as wired as many young people are the same study that found 87 per cent of young people use the Internet also found that 3 million remain without Internet access. Many of those without access come from financially disadvantaged backgrounds, and a disproportionate number are black.

Schools serving students living in poverty tend to use technology for more traditional memory-based and remedial activities, while schools serving wealthier communities are more likely to focus on communication and expression. A nationwide study examining the relationship between socioeconomic status and teaching practices around technology found that teaching in low-SES schools correlated most strongly with using technology for “reinforcement of skills” and “remediation of skills,” while teaching in higher-SES schools correlated most with “analyzing information” and “presenting information to an audience”.

At the same time, although less studied than other outcomes, demonstration efforts and anecdotal evidence suggest that teaching ICT literacy skills (specifically those related to multimedia literacy in Web, publishing and video production) can improve the economic prospects of at-risk youth by giving them marketable skills.

Language Learners

Likewise, in teaching language learners, using technology has distinct advantages that relate not only to language education but preparing students for today’s information society. Computer technologies and the Internet are powerful

tools for assisting language teaching because Web technology is a part of today's social fabric, meaning language learners can now learn thorough writing e-mail and conducting online research. In Oregon secondary schools, wirelessly networked note taking is used to support Hispanic migrant students who speak English as a second language (ESL). As part of the In Time project, ESL students attend regular high school classes along with a bilingual, note-taking/mentoring partner. Note takers and students communicate using a collaborative word processing and graphics package on wirelessly networked laptop computers. During class presentations, ESL students can read their note taker's translation of key words, allowing students to build both English and Spanish literacy skills as they advance academically.

Students with Disabilities

“For several decades, the American educational system has taken a narrow view of special education, treating it as a mini-school within the school where teachers, largely cut off from the rest of the staff, faced a group of students with an incredibly wide range of abilities and disabilities and made the best of it. Today, that view of special education is giving way to a broader, more philosophical approach—an approach designed to weave inclusive practices into the fabric of the whole-school environment.”

The shift in recognizing the needs of students with disabilities in relationship to their general education peers began with the 1997 amendments to the Individuals with Disabilities Education Act. Before the law, many children with disabilities who were not in schools at all because schools had chosen to exclude them. IDEA clearly established that all students with disabilities have the right to public education. More than 6 million children with disabilities ages 3 to 21 years old are served in federally supported programmes. However, students with disabilities frequently experience insufficient access to and success in the general education curriculum. This is especially true for adolescent learners, even non-disabled students, who must cope with the emphasis on learning from text.

Universal Design for Learning (UDL) takes advantage of the opportunity brought by rapidly evolving communication technologies to create flexible teaching methods and curriculum materials that can reach diverse learners and improve student access to the general education curriculum (Rose and Meyer, 2002). UDL assumes that students bring different needs and skills to the task of learning, and the learning environment should be designed to both accommodate, and make use of, these differences. To promote improved access to the general curriculum for all learners, including learners with disabilities, Rose and Meyer (2002) have identified three key principles or guidelines for UDL:

- Presenting information in multiple formats and multiple media.
- Offering students with multiple ways to express and demonstrate what they have learned.
- Providing multiple entry points to engage student interest and motivate learning.

VOCATIONAL ASPECTS OF EDUCATION

Vocational aspects of education focus on preparing individuals for specific careers or trades, equipping them with the practical skills and knowledge needed to thrive in their chosen fields. Unlike traditional academic education, vocational education emphasizes hands-on training, real-world experience, and industry-specific competencies. This approach aims to bridge the gap between education and employment, ensuring that students are well-prepared to enter the workforce upon completion of their studies. Vocational education programs cover a wide range of industries, including healthcare, information technology, construction, hospitality, and automotive trades, among others. Students may pursue certificates, diplomas, or associate degrees tailored to their career interests, with coursework designed to provide relevant skills and knowledge applicable to their chosen profession. In addition to technical skills, vocational education often includes instruction in workplace ethics, communication, teamwork, and problem-solving, essential for success in any job. One of the key benefits of vocational education is its practicality and applicability to real-world scenarios. Students engage in internships, apprenticeships, or co-op programs, gaining valuable hands-on experience and establishing connections within their chosen industry. Furthermore, vocational education offers flexibility and adaptability to diverse learning styles and career goals. Whether students aspire to enter the workforce immediately after graduation or pursue further education and training, vocational programs provide a solid foundation for success. By aligning education with the needs of the labor market, vocational training plays a crucial role in promoting economic growth, reducing unemployment, and addressing skills shortages in various industries. This comprehensive book navigates the intersection of education and employment, highlighting the transformative power of vocational training in shaping future pathways.



Dr. Suman Rani did M.A. in History from Shridhar University, Pilani, B.Ed. from MGSU, Bikaner, M.Ed. from IGNOU, New Delhi. Her interest towards researched her to obtain Ph.D Degree in Education from Tanta University, SriGanganagar. Currently she is working as a Professor in Tanta University, Sri Ganganagar (Rajasthan). She has published many papers in National Journals. She has teaching experience of 17 years. Under her guidance 6 Ph.D.

Research Scholars have been awarded Ph.D. degree. She has also participated and presented papers in International/National Seminars and already five (05) books are published by her.



4378/4-B, Murarilal Street, Ansari Road, Daryaganj, New Delhi-110002
Phone : +91-11-23281685, 41043100, Fax: +91-11-23270680
E-Mail: academicuniversitypress@gmail.com

