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## Editorial

Educators and education psychologists have told us that the school should be an extension of home. Here is a tacit assumption that home is where we are happy and that the school should aspire to be as happy a place as home. There may sometimes be cases that frustrate such an equation though. Home may be less than happy and school could be where we want to be.

For all the good that the temples of learning do, to some children, school often becomes a place of fear. The image of an unfair, threatening teacher, a terrorising bully, or the over-all climate of the institute creates and leaves painful scars in the child's mind. The child turns away from studies. The child turns away from life.

Calls for moderating or abolishing corporal punishment notwithstanding, the not-too-remote past has often relayed stories of hurts caused by acid treatment, nettle-therapy, baton awards, blood-letting slaps, ear-boxing, and other ingenious ways - all in the name of education! The other more subtle ways of inflicting hurt are a different story altogether.

All this is not to say that we do not need discipline or that children do not need to develop and demonstrate a sense of responsibility. By all means, we need to cultivate civilized habits of thought and action in children as much as in ourselves the teachers and parents. These habits will spill over to the society. And that is of capital importance.

When things go wrong (and things often do go wrong in spite of our best intentions!) do we immediately adopt a grand inquisitorial posture, invoke the rod and go for the alleged guilty? When and why does corporal punishment present itself as *the* convenient alternative, and to what effect?

These and other questions are examined by Mr Sonam Tenzin in his paper *Corporal Punishment in Bhutanese Schools*. The principles of continuous formative assessment, learning of mathematics by Bhutanese children, the treatment of Gandhian ideals by Anita Desai, helping children of alcoholics, and the challenge of learning Dzongkha pronunciation are dealt with in interesting and insightful ways.

We have a children's writer talk about where she gets her ideas for writing. And, in the portrait of an institute, we feature the Royal Bhutan Institute of Technology in Phuentsholing.

We never tire of reflecting on the nature and function of education as a process that gently draws or should draw the human mind to look for and to love what is true and good and beautiful.

This Spring Issue is dedicated to all learners and the learned who value and advance *sweetness* and *light* as the core principles of education.

Thakur S Powdyel

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## Corporal Punishment in Bhutanese Schools

-Sonam Tenzin, Head Teacher  
Wangdue Lower Secondary School

### PERSONAL EXPERIENC

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#### Introduction

As child in a boarding school, my life in the hostel was very difficult. Food served in the mess was not good. Once, as an appetizer, I ate some raw chillies stolen from a nearby farmer's garden; at midnight, I developed a stomach upset and, as it was dark without electricity, I could not venture to go to the toilet outside, and ultimately I defecated on the floor. The next day, the captain of our room started an inquiry. Since no one owned up, the matter was reported to the head master and every one of us got a beating from the head teacher.

In another incident, our captain in the room summoned us. He said: *Sit down in line or else you will all bleed.* Silently, murmuring words of protest, we sat down. He continued, *Today, we have a different activity, and if you don't complete it, I will leave marks on your backs.* We remained silent. Then he distributed his works - one was told to dig a concrete wall with his forefinger, another was told to eat some raw chillies. I was made to imitate the typical cry that occurs when someone dies and my friend had to scoop handfuls of dried human stool with his bare hands as there was plenty around the hostel. Over time, I began to fear everything and school seemed like a scene from hell. Each day, instead of learning literacy skills, we patiently waited for judgments to pass from the captains.

My class attendance was quite regular, but I could not pay attention to the teachers' instruction. To make matters worse, teachers only read and explained from the texts and punished us for the slightest mistake in answering the questions. The only aid teachers use to carry was a stick in their hand. In one of my science lessons, while I was in Class VI, my teacher gave us some notes on plant cells to memorize and told us that we would be asked questions in the next lesson.

The next day, he kept on asking questions and owing to the lack of proper instruction, I could not answer and I was badly beaten. The class remained quiet and would not dare to ask questions and move our body or else we would be punished. I became helpless and felt suffocated.

On several occasions, I had to skip classes, pretending to be sick to avoid his class. This corporal punishment made me more afraid to ask questions and I could not participate in any class works and activities outside the classroom.

#### The Significance of the study

It was only after my entry into the teaching profession that I realized that psychological fear may have an effect on the learning ability of children. During those

days, we learned not because learning was interesting or because of curiosity, but out of fear. Even today, it is unfortunate to see many trained teachers in the field still bent on the traditional approach of rote learning and information transfer to children reinforcing them with tactics of fear through punishment. It is still not uncommon to find teachers using corporal punishment and sadly many are driven to use this method as a means to impart education.

It is only recently after my exposure to a wider environment and literature that my approach to teaching and dealing with students has greatly changed. I am greatly perturbed to see this practice of corporal punishment remain prevalent and I hope to study this problem in depth and describe how corporal punishment affects the children's classroom participation and achievements focusing on grade levels IV to VI with ages ranging from seven years to ten years.

### **Literature Review**

As a head teacher, I am responsible for the overall welfare of the students in my school. I always believe that as educators, it is the responsibility of each one of us to care and respect children so they grow up in an atmosphere of dignity.

Sadly, corporal punishment, a way of disciplining students, is widely used in many schools of Bhutan. The pain and other related physical and psychological problems endured by some children seem to have gone unnoticed over many years. So far, no research has been done in Bhutan to assess this issue.

It is important that we support children's emotional development by helping students manage their feelings. An emotionally supportive classroom helps children to feel safe because anxiety and fear impede children's learning (Darling-Hammond, et al., 2003). In this literature review, I will attempt to explore different opinion authors have about the effect of corporal punishment on children's classroom participation and achievement.

Corporal punishment is defined as a painful, intentionally inflicted (typically by striking a child) physical penalty administered by a person in authority for disciplinary purposes. Corporal punishment can occur anywhere, and whippings, beatings, paddling and flogging are specific forms of corporal punishment administered to children (Paintal, 2005, cited in Cohen, 1984).

When children are brutalized, it lowers their self-esteem, teaches them poor self-control, and may lead to unsatisfactory relationships with peers and teachers, and in some cases, causes them to be brutalizing adults (University of Alabama, 2005).

Moreover, corporal punishment also plays a role in retarding the cognitive development of children. It has been found that parents who do not use corporal punishment spend, more time reasoning with their children than parents' who discipline their children physically. These types of parent-child interactions play an important role in promoting cognitive development of children by creating a conducive and caring atmosphere (Boyle, 2003).

Teachers usually use corporal punishment to give vent to their anger and justify that it is necessary to keep discipline and that it is good for children (Smith, 1978). It is also the case with some of our teachers and it is what I experienced as a child.

However, Falkenberg (1999) suggests that physical punishment should be left entirely to the children of the parents and schools should only play a secondary role in disciplining children. Further, the American Psychological Association (APA) Public Affairs Office (2005) has found that frequent and severe use of corporal punishment is likely to cause children to have mental health problems later in life. They also state that almost all American children experience at least some form of corporal punishment, and they provided sufficient proof that the more corporal punishment experienced by the child, the greater the constraint on the child's cognitive development (Murray & Mallie, 2005).

On the other hand, corporal punishment seems to have been re-introduced in some American schools. Some believe that corporal punishment is the right form of discipline for these students. It brings back allegiance to teachers, order in the classroom and safe environment in schools (Joane, 2005). However, it was also found that corporal punishment may be very effective in terminating an undesirable behaviour, but may make children become withdrawn or less active in the classroom (Dworetzky, 1990).

Researchers have found out that corporal punishment even lowers skill development. Babies who were physically punished by their mothers were more likely to grasp breakable objects and were least likely to obey restrictions, reaching for forbidden objects again and again (Ruth, 1986).

Darling-Hammond et al (2003) also state that emotions can interfere with students' learning in the classroom by limiting their capacity to balance emotional issues and bringing emotional responses to classroom events. To further substantiate the ill effects on children, a research conducted on 960 children by Murray & Maille (2005) has found that slapping or spanking is associated with the retardation of cognitive development of children.

## **Research Methodology**

I have used the qualitative research approach. Qualitative research is a study carried out in a situation where the researcher as the instrument digs deep to gain more information and insight about a particular phenomenon. In recent years, qualitative approach is increasingly used by anthropologists, sociologists, psychologists, educators and its legitimacy is gaining ground due to its increasing application in our daily lives in education, health, social policy and more are willing to fund qualitative researchers (Denzin & Lincoln, 1994).

The word *quality* itself is an attraction. Merriam (1998) notes that qualitative research, which is field-focused, having a constructivist claim, an inductive nature, a descriptive form, emergent nature, and flexibility is a source of attraction because at times depending upon the field situations, it can be modified slightly and allows room for constructing wonderful stories and important theories which may not have been envisaged earlier.

The research tradition I used is phenomenological. The philosophy of phenomenology emphasizes experience and interpretation. The focus is on the essence of shared experiences, mutually understood by both researcher and participant. A researcher must also have an intuitive understanding of the phenomenon to start an investigation and get a sense of the experience (Merriam, 1998). That is why the corporal punishment that I experienced as a student provides me the essence of my experience. My experience both as a teacher and as a student has already led me to understand the nature of that experience and that is why I have used this tradition.

After obtaining an approval from the head teacher, I made visits to the school not only to familiarize myself with the school environment but also to interact with my interviewees and to build trusting relationships. I was given the names of the interviewees by the head teacher to whom I had sent letters for permission to interview individuals who readily agreed to participate. Not to disturb the normal duties, I interviewed only two participants a day over a month.

The research tool which I used was primarily interviews for students and teachers. Before the interview, I explained the consent forms to the participants. I requested them to give me their candid opinions and told them that the success of my study would depend on them. All interviews were tape-recorded.

I interviewed four teachers and four students from a neighboring school. The students were from classes IV to VI with age range of 11 to 13 years. The teachers were those teaching from grades IV to VI. Teacher interviews were done at their own school and student interviews were done in my school as they were more comfortable in these locations. I spent 10 minutes with each participant and pseudonyms have been used for all participants.

To get a deeper insight into the problem, I used the language most comfortable to the participants. All the conversations were tape-recorded and then I took notes during the interview. My data collection began in the first week of June 2005 and ended in the end of June 2005. A certificate of ethical approval was obtained from the St FX University Research Ethics Board prior to start of this research.

## **Findings and Analysis**

### **Student Perspectives**

From this study, I learned that almost all the students favour some form of corporal punishment as a means to study well. They indicated that without punishment, they would not learn better. As is to be expected, the entire students expressed that after receiving corporal punishment, they felt sad and angry. Considerable emotional damage seems to have been done if this holds true. The fact that they feel the need of punishment as a way to learn is also an indication that teachers fail to see other alternatives to make children learn. Consequently, students also see that corporal punishment is the only way to make them learn. This may have serious consequences on the cognitive development of children.

However, it is interesting to note that quite often students do not seem to develop a negative feeling towards the teachers if they are punished because most of them responded that the use of corporal punishment by the teachers is to make them learn better. The fact that students accept punishment as a means to learn should not be misunderstood because as humans, students too have feelings to feel hurt and a mind to understand. As Sonam of Class V says: *If Madam beats with a reason, I do not mind, but some times madam beats when I am sitting quietly and that is I do not like*". Still, she accepts that corporal punishment is necessary to help them learn. As teachers, we need to be cautious in using punishment.

A certain degree of corporal punishment is accepted by students but crossing the limit and using it carefully seems very important distinctions. It is important to note that none of the students seem to be aware of the effects of punishments on them and this could be probably because teachers might not have told the students about the consequences of corporal punishment as they would start to resent further punishment and teachers would lose ground. I think this may be because of the ignorance of students - they accept corporal punishment as a normal thing.

Even if the students feel emotionally sad after punishment, they do not take it very much to their hearts on the assumption that it is for their own good. Teachers too feel that punishment is not necessary and is not a good option to use but surprisingly all the teachers interviewed indicated that punishment is necessary sometimes under certain exceptional or severe cases. They were not able to say clearly what these severe and exceptional cases are and this remains a very relative term.

Teachers are no doubt aware that corporal punishment is not healthy for children but the feeling of its necessity sometimes also demonstrates a certain amount of ignorance among teachers about important learning theories. Sonam of Class VI says that corporal punishment is necessary to make students respect the teachers, and in some cases this may hold true. In a society where top-down system is still the norm, where people demand respect, where traditional values are fast degenerating, probably, at times, teachers use punishment to get back their allegiance.

Although students responded that corporal punishment is a motivating factor to learn but the fact that students expressed emotional sentiments after corporal punishment is an indication that they would favour other alternatives rather than punishment. Educationists have found that emotions can interfere with the students' learning in the classroom by interfering with classroom activities (Darling-Hammond, et al., 2003). For instance, Yangzom of Class V says that after one of her teachers gave her punishment, she was sad, ashamed and felt like crying in front of her peers.

However, different students have slightly different views as to their idea of a good teacher. Karma of Class IV describes good teacher as one who gives home work, beats sometimes, and gives tests every week. Dorji, describes a good teacher as one who never scolds or beats, and repeats the lesson. Sonam says that the teacher who does not beat children and knows how to make them respect is her best teacher. Yangzom says that her idea of a good teacher is the one who gives them company, helps students and never ignores the problem.

## Teachers' Perspectives

Even teachers seem to repent after giving punishment and all teacher interviewees responded that they regret after awarding punishment. Mrs. Anju said: *I repent after punishment and I don't get any satisfaction*. They also responded that reward, advice, and reinforcements seem to work as other options. But here lies the confusion. Teachers feel that corporal punishment is necessary sometimes but at the same time they say other options seems to work in the classroom.

I came to understand that one reason could be the frustration of teachers with students when they are not able to achieve better after repeated instructions. This may be true in some cases because in many Bhutanese classrooms, teachers have to deal with hundreds of children each day and frustration can be inevitable. The other could be the environment in which the child was brought up and the culture in which both teachers and students grew up.

In this connection, Mrs. Karmo, a class teacher, says she punishes children depending on the type of environment they are brought up in. She means to say that those children who are brought up in a climate of punishment seem to work only with punishment. She also means to say that the deep-rooted Bhutanese culture of punishing a child to correct unacceptable behaviours may be a factor where teachers feel that it is okay to punish a child as it is socially acceptable.

This may encourage children to feel it is okay to be punished without understanding the consequences. Very recently, I witnessed a very interesting phenomenon where I saw my nine-year old daughter hitting on the head of her 17-year old illiterate aunt while she was teaching numerals to her. When her aunt reacted angrily, I saw a light in my daughter that she realized that corporal punishment is no good.

## Analysis of the Findings

From the start of my interview, I noticed that students tended to be very uncomfortable with me and I knew it was because of fear of me. I had to reassure them that I would not punish them for any wrong responses or any statements. I think corporal punishment seems to be a factor in limiting the children's capacity to think and interact. Initially, the children were slightly nervous but I reassured them of the confidentiality of their identity, and slowly, they opened up and spoke very candidly and this led me to believe that what they spoke was their candid feeling. However, I need to acknowledge that I was in a position of authority and their answers may be given to try to please me, no matter how comfortable I tried to make them to feel during the interview.

The role of culture also plays a part in using punishment by teachers and I think that the reason why most students do not take punishment to heart is because of the cultural belief that punishment is good for them. Most probably, it is this deeply embedded feeling that is driving some teachers to use punishment, and if measures are not taken at the earliest, the definition of a perfect teacher can be misinterpreted. I also came to believe that both students and teachers are not much aware of the long-term effects of punishment and unless we educate them on its ill-effects, corporal punishment would remain in most schools.

With ever increasing number of students coupled with increasing roles of organizations, teachers are also in a dilemma. On the one hand, teachers know that corporal punishment is not good, but they also feel that it must be used sometimes. I think the use of punishment, no matter how it is delivered, seems to exist in the schools.

One important finding here is the description of the quality of teachers by the students. Three students responded that a good teacher is one who sometimes beats them and makes them show respect. They visualize a good teacher, not from the point of helping them with love and care, but from the point of discipline. In other words, they look upon strict disciplinarians as good teachers.

Three teachers confidently responded that the effect of corporal punishment on learning is very short-lived. This indicated to me that punishment does not necessarily assure good learning. I think punishment may be used by teachers to vent their anger, frustration or to maintain their superiority over children.

Probably because of this, I came to believe that corporal punishment may never be totally banned from Bhutanese schools, firstly because of the culture, secondly, because of the large number of students resulting in poor classroom management, and lastly, because it has become a culture in many schools. The fact that no parents seem to make any complaint is evidence that they accept it as a part of the learning system.

The other interesting finding is the opinion of teachers that the good performance of students is the result of parental guidance given at home. The value we hold whereby we must obey our elders and parents also seems to work well. It is also an indication that when they were children, they obeyed their parents.

It also important to remember that teachers need to understand how to secure discipline if need arises, however, it is also important that teachers must explore ways to do away with corporal punishment because it is detrimental to the psychological and cognitive development of children. It is good to learn that teachers have been able to realize that corporal punishment does not work in the long run and is not good. Mrs. Karmo says that corporal punishment is needed only in severe cases; Mrs. Anju says it is not always good; Mrs. Tshomo says it was good before but not now because children fear the teachers; and Mr. Rinzin says it is not necessary now.

Even if punishment is rampant in schools, there is a silver-lining that the winds of change sweeping the classroom corridors may be effecting a better teaching atmosphere.

Below is a sample taped interview with Ms. Karmo, a teacher.

*Sonam: Please describe your opinions on corporal punishment.*

*Ms. Karmo: Corporal punishment is harassment. It is necessary but not always. For severe cases, it is needed.*

*Sonam: Is corporal punishment necessary to make students participate in the classroom? If yes,, why?*

Ms. Karmo: *Some times it is necessary but it does not always work.*

Sonam: *Can you describe any short and long term consequences of using punishment to children if you know?*

Ms. Karmo: *Regular punishment will restrict the child's freedom to speak and will affect the self esteem.*

Sonam: *Do you use corporal punishment in the classroom? If yes, why? If no, why not?*

Ms. Karmo: *Yes, sometimes, depending on the type of environment they are brought up in.*

Sonam: *How do you feel after you punish to make students achieve better?*

Ms. Karmo: *Feel a sense of repentance.*

Sonam: *Have you tried any alternatives to make students participate and what alternatives have you found useful?*

Ms. Karmo: *Asked children to write impositions, asked them to stand up and sometimes tried to find the reason for the misbehaviour.*

Sonam: *What often drives you to use corporal punishment in the classroom?*

Ms. Karmo: *Frustration with students and because of culture I feel it is okay to punish a child.*

Sonam: *How do children respond and participate in the class after using corporal punishment?*

Ms. Karmo: *They give different responses meaning some become attentive and some not.*

Sonam: *Why do you think some students perform better in class? Is it because of corporal punishment or any thing else?*

Ms. Karmo: *Because of parental guidance and advice.*

Sonam: *Do you think students participate more because of corporal punishment or because of other reasons?*

Ms. Karmo: *Corporal punishment will not work in the long run.*

The excerpt above with Ms. Karmo, a teacher, is an example of where teachers feel corporal punishment is not a good option. On the other hand, students generally feel corporal punishment is good but not always as it make them feel depressed. Despite knowing that punishment is not good, they tend to use it in the classroom and here lies the dilemma. Nevertheless, at the end, it is demonstrated that both teachers and students would prefer to have other alternatives than punishment for better learning.

## **Recommendations and Conclusions**

A certain degree of corporal punishment is accepted by students as it helps them to learn. Teachers also seem to use it sometimes despite the limited awareness among the teachers of the harmful effects of corporal punishment. The acceptance by students is not because that they love punishment but because it helps them to learn

Acceptance of punishment by students should not be taken by as the weakness of students; it is accepted because children know that education is important for their future. If teachers want to make the future of children bright by making them learn through punishment, then it is more effective to make them learn by other learning strategies. Therefore, school head teachers should be made aware on the importance of learning theories.

Frequent monitoring of teachers not only for teaching-related purposes but also on the use of punishment should be incorporated in the current system of decentralized monitoring.

Considering the ignorance among students of the consequences of punishment, perhaps, it is high time that students are made aware of the physical and intellectual effects of punishment. Punishing children on sensitive areas can be fatal especially on the sense organs and the head. Children also develop a negative feeling towards the teachers and they tend to cause children seek to revenge against the teacher. Later, they could also adopt it as a means to do the same thing causing ugly emotional scenes in the classroom and ripples can be felt in the society. This obviously has a detrimental effect on the children's learning.

At the moment, there are no such rules or policies on the use of corporal punishment in the schools, but I think the time has come for the educationists to outlaw corporal punishment in the schools. In a way, it is also a form of exploitation of children, because fear has restricted students to challenge the teachers. If the use of punishment is unavoidable in the higher classes at times, the use of it in small children should be minimized.

Now with the onset of modernization and with more and more educated parents, corporal punishment may not work. This trend has been observed in many of the urban schools and many parents resent corporal punishment. It is high time that educationists educate teachers, parents and students on the importance of effective learning in an atmosphere conducive to children's learning and on the effects of punishment.

The Student Support Service Committee formed in some schools comprising school counsellors, health in-charges and others must be further reinforced nationwide to counsel students rather than punish them. To make matters worse, I also came across some parents encouraging teachers to punish their child for better performance and thus they must be better educated, during Parent-Teacher Meetings.

Probably, it is also important that teachers educate the parents to be role-models and impart proper guidance and support to their children because teacher interviewees felt that parental guidance may also help the children because of our culture.

All the teachers felt rewards and reinforcements work well as an alternative to corporal punishment. Perhaps, the department needs to stress more on including this component in the curriculum of the training institutes. The need for exposing our teacher-trainees to a variety of learning theories is also important as they would enlighten themselves on the pros and cons of punishment.

It is also equally important to lighten the load of the teachers in schools. In the name of providing the Wholesome Education, many instructional hours are also lost. Frustration is the result when teachers have to teach whole day and with many students. Many schools in Bhutan have very high teacher-student ratio against the requirement of one teacher to thirty two students.

My brief visit to Canada and then to one of the schools in Antagonist was a real eye-opener. Students were very free and posed many challenging questions to me and there was no clue that corporal punishment was used. I learnt that it is an exploitation even to pat or hug a student in Canada. That visit greatly changed my attitude and my way of dealing with children. Probably, the department of education should look for ways to organize such visits especially for head teachers because it has a real impact.

Corporal punishment has been a topic of debate over the past years among teachers, parents and educationists. Usually, I have found this debate among the traditional teachers and the teachers with slightly modern outlook but with no winners in sight. Which side is true will still depend upon further researches to ascertain the truth.

The current research is the result of my own personal journey through punishment and the ugly scenes I see in my day-to-day work in the school. As any topic, its debate will continue till further researches are carried out to establish a definitive conclusion. Some successful persons give credit for their achievements to the punishment and hardships they endured but some give credit to the love, care they received in the schools.

In this research, some biases might have crept in but they are not intended. I stare alone in the dark and think deeply. I feel that corporal punishment has done more damage than good. I entirely blame my low self-esteem for those punishments I endured; and I do not hope to make my students tread through this rough journey again; instead, they will be asked to take a new path and leave a bright trail.

At the end of the tunnel, I can see a light of hope because by and by with more and more educated parents and teachers, incidences of bullying and punishments are becoming a thing of the past. The recent expansion of educational facilities and infrastructure coupled with the arrival of media and communication, everyone is beginning to understand and reason and I am hopeful that it would be eventually eliminated from the schools.

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## Learning of Mathematics by Bhutanese Children

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### Introduction

The type of childhood environment an individual experiences has a great influence on one's learning abilities. The experiences, the pattern in which a child interacts in a society, the first-hand experiences of life, all shape an individual's understanding and growth. This becomes a reference point throughout one's learning stages.

### Explanation of my research desire

During my early school days, when I did things that were wrong or right, there were neither words of encouragement nor words of appreciation. Once, in class five, my mathematics teacher whipped me with a bamboo cane from head to toe for not doing well in my half yearly examination. Mr. X said: "Though your marks are second highest in the class, it is still not satisfactory for me." Amazingly, I did not start disliking the subject. I took pride in the thought that I was number two in the subject. I remember asking and seeking help from him quite often, seeing the possibility that I could do well if I tried. On his part, he too displayed patience and care with my inquisitiveness. He showed gentleness and a soft voice looking at my persistent nature although he was a strict disciplinarian. Perhaps, due to the attention I received from him, I developed a further love of the subject, which I carried right up to my pre-university classes, and beyond.

However, my experiences of learning mathematics were not all smooth - sometimes there were nightmares. In classes VIII to X, teachers taught us through dictation, the only pedagogical approach teachers seemed to possess at that time. You had to solve problems by looking at the examples in the textbook, repeated a number of times until you got used to the steps that led to the answer. There was no variety or alternative ways, no examples related to our experiences outside the textbooks. We never learned mathematics outside the classrooms. The teaching aids used were always the board, chalk, textbook and talk. There were no group discussions (small or big), nor project work assigned. We hardly had any opportunities to broaden our learning outlook beyond the book. Different learning pathways and appeals to multiple intelligences were out of the question in those days. "Drill and practice" was the only classroom approach used at that time.

When I went to college, learning mathematics was yet another hurdle. I was lucky enough to be a student of Bio-math, i.e. I was a science student with a mathematics combination. A little bit of hard work and you were sure to qualify for a professional course with these subjects. I had my hope for engineering. But the story turned around. There was a lecturer from India, Mr. Y, who was highly qualified, save his preoccupation with finishing the syllabus. In order to cover the syllabus, which was vast, he would always speed up his lecture. He would forget about us being able to make sense of what he bombarded us with. Most of the time, we could not even copy

what he wrote on the board for he would rub off the writing as soon as he finished speaking, and he used to write on the board at the speed of his speaking!

If he had just cared about how teaching could be effective, he could have produced more engineers and doctors, including those learners of my type. What was his perception of teaching mathematics? He was an expert in the subject, but he just did not transfer knowledge. He left me baffled about learning the subject. I had to seek peer help later during my free hours, which, of course, was not enough to pass my tests and examinations. I tried to attach myself to the textbook and notes twenty-four hours a day. Slowly, as examination days approached, I could not help but feel that the opportunity to qualify for a professional course was slipping away, and when I got my pre-university results, I was informed that I had not qualified only because of low marks in mathematics.

Today, as a mathematics teacher, I have experiences with students who are complex in their approach to learning. For instance, Kakur is physically bigger than his classmates in class five. He is good at physical activities, but less talkative and friendly. He is weak in academics; very weak in mathematics. He is my biggest concern in the classroom. Given the size of Bhutanese classrooms and the number of subjects a teacher has to handle, it is very difficult to find time to attend to students with learning abilities. Kakur is reluctant to show his work for corrections and feedback. When I force myself on him, most of the time, his notebook is blank or filled with unintelligible numbers of his own. He cannot understand what his friends have done. When asked about his problems, he hardly speaks out loud and it is difficult for me to understand what I could do to help him. His shyness is a big hindrance to his learning. Would he be able to express his understanding more comfortably through a different teaching/learning approach that I should think of using? Does he like the subject? If he does not like it, what are the causes? How could I understand him better and address his needs?

Stories such as these are the reason I want to find out more about students' daily experiences of learning mathematics. I am interested in looking at how children perceive mathematics and how children can effectively learn mathematics by asking such questions as: What kind of classroom, as well as psycho-social environment is conducive for effective learning of mathematics? Physical environments like the buildings, work area, classroom facilities, and stationery also could have an influence on how they view mathematics and how they learn mathematics. Classroom culture, teacher attitude and support, and relationship with fellow-students could also substantially affect students' interest in the subject.

Another area, which needs closer attention from educators, has to do with teachers' classroom practice in teaching mathematics. How do students accept teachers delivering the subject? Educators place emphasis on pedagogical arts like collaborative learning, reflective writing, project work, understanding how concepts/skills are learnt, and so on. Are teachers aware of such strategies? Which of these pedagogical approaches makes children's learning comfortable?

All students in a classroom need not like mathematics and be excellent performers. Each individual has potential in different fields. Having noticed this difference, what are some of the ways students can be motivated to learn mathematics? Similarly, what

role can parents play in enhancing children's learning capacity? Do they continue learning outside classroom, at home? What kind of support are parents able to give to supplement classroom understanding?

My personal experiences of how I learned mathematics as well as my reflections on how some of my students learn have inspired me to research into **Children's Learning of Mathematics in Bhutan**. How do children learn mathematics? What are the perceptions of children towards mathematics? What affects children's perceptions about mathematics? If needed, how can we improve children's perceptions and learning of mathematics?

## Literature Review

As a teacher, I have difficulties with how to make my students learn all of what I want to teach. I would like to make their learning experiences as meaningful, enjoyable and comfortable as possible. In order to create this kind of environment, teachers have to continuously try to understand students' learning pathways (Darling -Hammond, et al., 2003). I am concerned about what kinds of learning environment encourage or discourage students from learning mathematics. In this chapter, I explore the opinions of other researchers about the need to focus on students' perception of learning mathematics.

## Classroom Practice

Lyn (2001) suggests that students believe that learning mathematics involves meaningless practice of routine exercises, memorization and imitation. This indicates that as long as students get the solutions to the problems given in the textbooks, they derive a sense of achievement that does not provoke their mind further. Someone who can solve the maximum number of problems is considered to be good and he/she, in turn, does not always try to think deeper than that.

Accordingly, students give high priority to learning methods such as the following:

- Work harder, including working all the time in class and doing all the homework;
- Remember all the rules and formulae -'the whole point of math is applying a rule to a situation and you need to know the rule;
- Do all the examples and exercises many times -'the only way to really do well in maths is to do problems over and over and over again and again; and
- Listen to the teacher. (Lyn, 2003, p.164)

In all, the teacher is perceived to be all-knowing and whatever structure he/she provides is the ultimate source of knowledge. However, Lyn (2003) is quick to suggest that when changed learning approaches are introduced slowly over a stretch of time, students have the ability to learn through a more reflective method. Very soon, they (students) change their idea of the teacher to someone who is always a "good" teacher. Such things as focusing on understanding the rules and procedures they use, new

approaches to problem-solving, taking risks and sharing these with friends, all can become normal practice.

### **Communication and Writing**

The world's largest organization dedicated to improving mathematics education for all students, the National Council of Teachers of Mathematics (NCTM) lists 'learning to communicate mathematically' as a primary learning outcome for all students. The NCTM supports this belief by saying communication is essential because, whether students are solving problems, reasoning, connecting ideas, or representing knowledge, they are using language as a tool for thinking as well as communicating. Similarly, it further emphasizes the fact that to prove their mathematical ideas and to learn to communicate their mathematical thinking clearly, they should be proficient in writing. "Writing in mathematics can help students consolidate their thinking because it requires them to reflect on their work and clarify their thoughts about ideas developed in the lesson" (NCTM, 2000, p.61). However, not many teachers adopt writing in mathematics or use small group discussions in their mathematics classes, because they still see mathematics learning as independent work. Writing and talking are ways learners can make their mathematical thinking visible. Both writing and talking are tools for collaboration, discovery and reflection.

### **Psychosocial Environment**

Classroom environment also plays a significant role in determining student-learning (Fraser, 1994). Students learn better when they perceive the environment to be positive, such as mathematics classes where the teacher is supportive, places a strong emphasis on understanding the work, involves students in investigation, and has a helping and friendly behaviour. Fisher (1998) points out that there is very little cognitive gain in classes where students think the teacher is dissatisfied or gives them too much freedom and responsibility. Even if a teacher teaches two classes of the same topic and grade level separately, these classrooms will have different environments. Teachers need to know when to intervene in discussions, when to move on or when to slow down, when to reprimand, when to encourage, and not apply the same rule in both the situations. The best learning environment, according to Fisher, is one where there is encouragement that allows students to enjoy their work and feel valued.

Anderson (1973) highlights the effect of teacher gender when he says: "Teacher sex was unrelated to pupils' perception of learning climate within their classes. Male and female teachers do not have significantly different effects on classroom learning climate in the four-subject areas - science, mathematics, humanities, and French".

### **Learning and Parents**

Researchers such as Appelbaun (1999), Lehrer and Shumov (1997), and Peressini (1997, 1998) point out that there are mixed feelings among parents about mathematics learning, particularly related to reform approaches to the learning of mathematics. Many parents seem to support certain practices such as children sharing their approaches to problems and are impressed by the different kinds of mathematics the children are exploring. Yet many of them are not sure about the

changes, especially when they are not used to new approaches and, thereby, are not able to give specific help at home.

## **Bhutanese Perceptions**

The Mathematics Syllabus Handbook (Feb, 2003) for Bachelor of Education used in Bhutan's teacher education institutes suggests that for solutions to mathematical problems faced in the classroom, teachers should begin with a translation of the ideas into appropriate mathematical steps. It stresses: "This first and essential step presents very great difficulties to many students - a fact which is often too little appreciated (p. 14)." It envisages that Bhutanese students are by nature shy and not outspoken which further aggravates understanding. Talking, discussing and challenging their mathematics learning can be understood only through much encouragement and explicit help.

The Mathematics Syllabus for Classes IV to VI, produced by CAPSD, Education Division (1996) says although acquiring mathematics skills is very essential, the way it is learned is still a nightmare. However, this realization does not conform to what textbooks are aiming to do to get the required results. In the book "Purpose of School Education for Bhutanese Schools", the section on Mathematics PP -VIII (2002, p.33) yet again dwells on providing mathematics learning experiences through frequent opportunities to explore, discover, describe mathematical patterns and relationships, and extend mathematical experiences by involving students in problem-solving in small group interactions. Learning would be enhanced if activities relate to situations the students are already familiar with.

There are various ways mathematics learning is perceived to be affected. It is related to approaches used by teachers, student background, classroom environment, parental attitude, and many more. It is important that, as researchers and educators, we consider all the learning approaches of children in our schools.

## **Methodology**

### **Qualitative research tradition**

My research takes a qualitative approach. The reason for choosing a qualitative approach to research my topic is because it is field-focused (Eisner, 1998) in that it involves going out to a school, watch children and have close understanding of the phenomenon that influenced their mathematics learning. Here, I had to make sense of the phenomenon by engaging in the situation. It was not a matter of checking behaviours, but rather of perceiving their presence and interpreting their significance (p.34).

It involved closely listening and observing as participants described their everyday experiences related to knowing how and what they were learning in mathematics. Care was taken in identifying subtle, yet meaningful, cues in participants' expressions, questions, and occasional sidetracks (Holstein, et al. 1994, p.153). This study has identified commonalities in student experiences and uses methods of bracketing to search for these commonalities. In other words, I have aimed to find student experiences, views and perspectives about the learning of mathematics, and addressed this question from a phenomenological standpoint.

## **Data Sources and Collection Method**

For this research, I used an interview questionnaire as a data gathering method. To elicit views and opinions from the students, I used unstructured and generally open-ended questions. Several research aims influence the choice of qualitative surveys (Weiss, 1994, p.9) and their appropriateness as a method. In my research, integration of multiple perspectives is the aim.

## **Context of Study**

The school that I have chosen to locate my study is a semi-urban lower secondary school, which is a full, co-education day-school. It consists of students from pre-primary (PP) to class eight (VIII) level taught mostly by Bhutanese teachers with a few non- Bhutanese teachers too. These children come from families whose backgrounds included government service, armed forces, business, road-work, and farming, with more or less equal number of children from each background.

## **Types of Analysis Used**

Creswell (2003) says that data analysis is an ongoing process involving reflection on the data, asking analytic questions, and writing memos throughout the study. It involves asking general question and developing an analysis from the information gathered. Researchers need to tailor the data analysis beyond the more generic approaches to specific types of qualitative research strategies. My own research analysis progressed in the following sequence:

**Step 1:** Organizing and preparing the data for analysis.

**Step 2:** Reading through all the data to obtain a "general sense", with notes written in margins and recording general thoughts.

**Step 3:** Analyzing details following coding process that involves putting text data into categories and labelling these categories.

**Step 4:** Generating description by using the coding process for separate headings in the findings sections to further build connections.

**Step 5:** Representing the description and themes through discussion mentioning the chronology of events or the interconnecting themes.

**Step 6:** The final step involves doing an interpretation of the data. (Creswell, 2003, p.191).

## **Ethical Considerations**

The main ethical tenet I followed was "Do not put participants at risk, and respect the vulnerable populations" (Creswell, 2003, p.64). Participants were given the option to voluntarily participate or withdraw any time. Clarification of the purpose, the nature and the likely impact of the study was done beforehand. What the participants should

expect, ask and whether their privacy shall be respected, were made clear in a written agreement signed between the participants and the researcher.

This study was conducted in accordance with the ethical guidelines given by St. Francis Xavier University. Permission was received from St. Francis Xavier University Research Ethics Board prior to conducting this study. In addition, I sought and received permission from the District Education Officer and the head teacher of the school. Students were given free and voluntary option to participate in this study through a letter of informed consent given to them beforehand. The group also included children from diverse family backgrounds. The survey was done with the students when the school was in full swing with its academic work. In order to protect the identities of students, I used pseudonyms when referring to comments made by individual students in this report.

I informed and sought permission from the principal about the number of students involved in the study. Information was given to the district education officer, the personnel section of the Ministry of Education and relevant stakeholders, so I got full support from all. I used pseudonyms, maintained confidentiality and secured privacy.

## **What the Participants Say**

### **Teacher Behaviour and Motivation**

Many of the learners in this survey point out the importance of teacher behaviour as one significant factor that motivates mathematics learning. Gayley writes:

I am much interested and ready to learn math if the teacher enters the classroom with smiling face and humour. Sometimes I am afraid to repeatedly approach my teacher because he scolds us for doing so, he states further. Teachers do not tolerate the same student asking for clarification of doubts several times. There are many who said, I am much confident and interested to work more when I get the answer for the set task, achieve as I expect in tests or when the teacher is always encouraging.

### **Teaching Strategies**

Students expect to learn better and feel comfortable if teachers know individual child's strengths and weaknesses. This is supported by comments like: *If teachers repeat the steps for solving problems more than once, I think I will understand better.* Similarly, many do not like learning mathematics with a great deal of distraction around, when there are confusing directions from the teacher, or when everyone is treated as equal and similar individuals. Yuden writes:

If I were the teacher, first I will teach the formula, next I will solve an example problem using the formula; then I will ask similar problem to be solved by students on their own. If they still did not understand, I will teach again. Teacher should be frank with students because if teachers are serious looking and not open, students will hesitate to talk and share their problem frankly.

## Relating Theory into Learner Experience

Relating theory to children's daily experience will make learning meaningful and easy. Yangchen expresses:

I understand achieving good marks in math is very important; there is wide future opportunity for those who are good at math. But, I feel very angry and frustrated when I am not able to perform as expected. Maybe this will not happen if teachers have patience, show tolerance and friendly attitude by digging out more examples that is related to real-life situation.

Neglect and disregard for learner interest and difficulties are other factors which develop burn-out in learners. *Sometimes I know what I have not understood is a simple concept or a step. But to get teacher's attention for the problem is very difficult. He keeps on shouting out what he feels is to be understood, which actually confuses me more and makes me hate the subject*, Penjor laments.

Amongst all the subjects, approaches to teaching mathematics generally have not changed from the traditional style. "Most people are familiar with only the computational aspects of mathematics and so are likely to argue for its place in the school curriculum and for traditional methods of instructing children in computation." (Bransford, J.D. et al, p.140). There is much less evidence that teachers try to establish the knowledge of children as learners of mathematics. Accepting new concepts unrelated to daily life is the norm in most mathematics classrooms.

## Learning environment

*I hate going outdoors for math classes because it is difficult to think and write what the teacher say*", Pradeep complains. *Carpenters, birds, people's movement, everything distracts me. I need a silent and secluded atmosphere to do math.* So although this approach of going outdoors may help some students learn, the teachers must recognize the individual needs of all students.

## CONCLUSION

The urge in students to learn more will increase not by setting difficult levels of achievement, being strict disciplinarians, or by teaching through what we think is the best approach. The participants' writing in the survey revolves around three major areas that they perceive to be predominant practices in Bhutanese mathematics classrooms: first, more friendly, supportive and frank teachers who do not resort to corporal punishment are few in number; second, knowing more about each learner's potential and providing tasks accordingly is yet to become the norm; third, the amount of independent work provided to be just enough so that students do not develop burn-out and get de-motivated.

Students feel comfortable to learn mathematics if the teacher is friendly, frank and caring. They will develop confidence and enthusiasm for more learning if they are encouraged and given positive feedback for their effort. Perhaps, only a few of the learners in a classroom possess the necessary confidence and enthusiasm to learn. Thus, it is the task of the teacher to continuously try to develop a closer

understanding of individual learners. Because all learners may not be aware of their potential, it should be the teacher who should make conscious efforts in identifying such potential. In this way, a teacher exhibits encouraging behaviour that nurtures motivation for learning mathematics.

One important finding from my research is that Bhutanese mathematics teachers tend to generalize learners as same-sized receptors of knowledge with very little difference and they seem to believe that all the children learn the same way. It is important that Bhutanese educators learn how to look for and identify differences in the learning approaches used by their students. Mathematics teachers should know a student's preferred mode of learning and encourage the development of other modes and abilities (Darling -Hammond, 2003, p.77). Teachers have to be very careful in providing an appropriate amount of guidance which does not suffocate students' comprehension. Though educators, policy makers and training institutes advocate the importance of differences in learning approaches of individual learners, there is much work to be done at the school level. According to Gardner (1999), an effective education builds a bridge between the content being taught and the students in the classroom. Educators need to take into account the differences among minds and, as far as possible, fashion an education that can reach the infinite variety of students (Gardner 1999, p.186).

Another question that is obvious is how much care teachers take in providing a comfortable learning environment. In an environment where learners are threatened and feel uneasy, there could be very little learning taking place. If a learner is apprehensive of an outdoor mathematics session or is disturbed by the physical activities, then it will surely diminish his/her interest and may cause them to lose concentration. Do mathematics teachers realize and recognize such hindrances to learning? Caring for such environments is displayed by the amount of time that teachers dedicate to students, how well teachers plan for class, and the effort put into making classes interesting (Nieto, 2000).

Similarly, another important point for all mathematics teachers to bear in mind is how do we connect theory or textual knowledge to learner's experience? People more readily process information that connects to things that are already familiar to them (Darling-Hammond, 2003). When learners challenge problems that are related to their prior knowledge, it is easier for them to comprehend things. Unlike the experiences provided in other subjects, experiences provided in mathematics are less realistic and more mental-oriented ones. In order to translate these experiences into meaningful chunks, mathematics teachers have to continuously ask and seek what is relevant and applicable immediately.

While designing the study, I have focused more on learning about teachers' daily classroom practice rather than on digging for information about other factors that may have a lot of influence on how students learn mathematics best - such as social background of the learner, parental attitude and knowledge of mathematics, curriculum and physical resources. Therefore, my study was so designed as to encourage the students to have plenty to say about teachers and the classroom environment. However, I feel that despite the other factors that prevail, the teacher is the biggest factor that influences how children learn mathematics in Bhutanese classrooms.

Therefore, based on what the participants had to say, I believe the students' perceptions of learning mathematics will be positive if teachers are positive about learners in all areas. The participants in this study said that they wish that teachers could exhibit more patience, understanding, know learners better, indicate that all learners can do better, use a variety of classroom approaches, and make the curriculum relevant to students' daily lives. In other words, teaching knowledge acquired during teacher training should be continuously reflected upon through action research, and teachers should find out the relevance and effectiveness of their teaching approaches, instead of applying pedagogic approaches without much questioning.

This further means that teachers should continuously update themselves through professional development studies, trainings, workshops and seminars. Only through continuous research into one's own practice can a mathematics teacher identify his/her weaknesses, strengths or the learner's needs. What has been demonstrated by this study is but the tip of the iceberg. Extensive and in-depth research into this field is a task awaiting all Bhutanese mathematics educators to undertake.

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## Gandhian Ideals in Anita Desai's *Clear Light of Day*

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Gandhi often said, "It (female sex) is the nobler of the two, for it is even today the embodiment of sacrifice, silent suffering, humility, faith and knowledge" (Gandhi, 1958:6). Considering Gandhi's idea of women as the picture of sacrifice and suffering, then Anita Desai's depiction of the pathos of women in her novel *Clear Light of Day* is a representation of Gandhian ideals. Her women characters function under a certain social and personal duress, yet bearing the suffering in a silent and dignified manner. They don't collapse under stress and anxiety, or patriarchal oppression; instead, by the virtue of their moral strength, endurance, humility and gentleness, they come out as the nobler of the two (male counterpart).

Apparently, if the silent suffering women are examined from a political angle, then the notion of enduring pain, silent suffering, and humility becomes a form of *ahimsa*—an infinite capacity for suffering.<sup>1</sup> That women are a manifestation of *ahimsa* and have immense power to endure pain is affirmed by Gandhi: "If by strength is meant moral power, then women are immeasurably man's superior. Has she not greater intuition, is she not more self-sacrificing, has she not greater courage? Without her, men could not be. If non-violence is the law of our being, the future is with women" (Gandhi, 1958:6). Conversely, it is intriguing that in relation to Desai's depiction of women in a social set up, the silent suffering women do not become *ahimsa*, but a form of oppression because they are not working within the political sphere. The middle class women in Desai's *Clear Light of Day* are struggling to survive by the day in a constrictive social structure. Hence, it could be argued that Anita Desai seems to be working within the framework of Gandhian ideals by giving a different facet to it. Her portrayal of the suffering women could be an allusion to the social/patriarchal ideology functioning in the Indian middle class social set up, thus driving at the truth at the centre of the existent social evils. Regardless of social discrepancies, Desai's women evolve as respectable characters by dint of their moral strength.

There is no doubt that Gandhi was against social injustice, especially against child marriage and child widows. He denounced child marriage as both a "moral" and "physical" evil (1958: 49). He said that early marriage ruins the health of young girls and the added enforced widowhood makes the human suffering complete (48). He sympathized deeply with the plight of the widows. He was conscious of how widows were treated by the in-laws and by the community. He advocated extensively for widow remarriage, and that they should be respected within the community. In this light then, Desai's portrayal of the suffering widow Mira Masi is an expression of Gandhian thought. Perhaps, Desai is also sensitive to the varied form of social injustice existing in her time. Accordingly, her picture of the widow could be a symbol of a certain social truth. Desai has portrayed Mira Masi as a victim of child marriage, widowed at a tender age of fifteen before the marriage could be consummated. Gandhi declares: "...having never lived with the so-called husband, is suddenly declared to be a widow, is not a widow. It is an abuse of the term, abuse of language, and a sacrilege" (1958: 64). In that case, Mira Masi is a classic case of child marriage, widow injustice and

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<sup>1</sup> M.K.Gandhi, Harijan, Feb. 24 1940, pp. 12-14.

social oppression. Mira Masi is deprived of any form of respect and she is reduced to the status of a servant, she is considered a burden to the family. The plight of Mira Masi in her husband's family clearly indicates her exploitation and ill-treatment by her in-laws: "she was stranded with his family and they blamed her bitterly for his death: [...] guiltily, she scrubbed and washed and cooled for them. At night she massaged her mother-in-law's legs and nursed wakeful babies and stitched trousseaux for her sisters-in-law" (Desai, 108). Ostensibly, Desai's and Gandhi's objective is the same - to shed light on social evils. From this perspective, Desai is working within the Gandhian principles of child marriage and enforced widowhood. Gandhi felt that widowhood on young girls was a terrible social injustice and he fought against it. Gandhi often appealed for better treatment of widows. He proclaimed: "To force widowhood upon little girls is a brutal crime [...]. Widowhood imposed by religion and custom is an unbearable yoke, and defiles the home by secret vice and degrades religion" (1958: 61). Consequently, Mira Masi's suffering could be viewed from a Gandhian perspective of moral strength. Even though Mira Masi is badly treated, yet she survives through sheer humility and dignity. In this respect, it could be postulated that Desai is trying to reinforce and promote Gandhi's advocacy for injustice against widows. Keeping in mind Gandhi's idea of women as the picture of sacrifice and suffering, then Anita Desai's representation of the pathos of Mira Masi is an account of Gandhian thought.

Later, when Mira Masi gets old, she is summoned by a distant cousin to look after the children. In that household also, Mira Masi takes the role of a servant. She becomes a surrogate mother to the four children, who are actually neglected by their parents. The parents are trapped by their middle class social values, and they spend their time pursuing leisure like going to the club and playing bridge. This could be a Gandhian critique against modern civilization. The old family values are eroded and replaced by new values. Thus, the responsibility of bringing up the children is left entirely upon Mira Masi. Despite her supportive presence in the family, she is often identified as a "cracked pot, or torn rag, picked bone" (108), "a discarded household appliance" (105) and "the worn article thrown by one [...] picked up and employed by another" (104). All these descriptions highlight the pathetic, miserable and unwanted existence of Mira Masi. Although she is a neglected being for the adults, she is a constant support and companion to the children: "She was the tree that grew in the centre of their lives and in whose shade they lived" (110). She brings up the children like her own. She becomes a tower of strength; someone to run to for haven. They flower under her gentle administration: "They grew around her knees, stubby and strong, some as high as her waist, some rising to her shoulder. [...] They crowded about her so that they formed a protective railing about her" (111). It is evident that the need is reciprocal. She needs them and they need her. Literally, she becomes the care-giver that Gandhi talks about. In spite of her comforting presence, sadly, the children still cannot place her in the role of the mother. For the children, the mother is someone who smells pleasant and dresses well, not like Mira Masi who is half bald. Her plight as a widow, her constant suffering in various hands has made Mira Masi what she is. From this angle, Desai is fully in agreement with Gandhi in respect to the suffering of widows in the society. Mira Masi is a reflection of the social injustice against widows that was prevalent in Desai's time. Evidently, within this structure of Gandhian thought, Mira Masi is a picture of suffering. She bears her suffering with dignity and humility, which in effect becomes her moral strength.

Therefore, it cannot be denied that Gandhi did advocate for the betterment of the women in the society of his time. He was all for the equality and education of women. He often argued that, "woman is the companion of man gifted with equal mental capacities. She has the right to participate in the minutest details of the activities of man, and she has the same right to freedom and liberty as he" and that "both are god's gifts. They have an equal right to live, and are equally necessary to keep the world going" (1958: 4). He states men and women are equal but they are not alike. They can exist as complementary beings, so that the existence of either one of them cannot be conceived without the other. (5). However, at times, Gandhi's idea of women seems to operate on a patriarchal premise, believing in the basic biological difference with defined roles between men and women. He still believed in the difference in their vocations and roles, women as the care-giver and mistress of the house and men as bread-winner. The belief in the biological difference and defined roles becomes problematic for the Liberal and Marxist feminist.<sup>2</sup> They challenge this theory on the ground that the emphasis in the biological difference gives more space for patriarchal oppression and gender bias.

Then Gandhi's struggle for women becomes problematic, appearing more in favour of patriarchy. Gandhi recognized that men and women are members of the same humanity, yet at the same time he says, "Their functions are defined as are their forms," and "women as passive and men as active" (1958:9). The statement is analogous to gender imbalance in Gandhi's theory believing in the silent suffering of women to be sacrifice embodied. Despite his constant support to women, he still believed in the traditional classification of women's place being the home. Undoubtedly, Desai's women pose a little challenge to Gandhi's belief. In fact, the picture of suffering/working women uncovers a different shade to Gandhian thought. It is interesting to note how Desai reveals a different aspect of Gandhian ideals by juxtaposing the male characters and the oppressed women, which in turn make women transcend the limitations so that they come out as the better of the two.

Desai's portrayal of the suffering Misra sisters is not sacrifice embodied; their suffering is due to a patriarchal set up. Desai depicts the two sisters as being readily led into arranged marriages, until after their marriages and later abandoned by their husbands. According to Gandhi, "marriage is a sacrament" and a "state of discipline as any other" (quoted. in Unnithan, 63). In this light, Desai is working within Gandhian thought. She seems to agree with what Gandhi says regarding the sanctity of marriage. Since men do not respect the sacredness of marriage, they are falling short of Gandhian ideals. Gandhi frequently said, true marriage is not merely the union of the bodies, but it connotes the union of the soul. But the Misra sisters' husbands prove to be unworthy men. They neither respect women as a better half, nor do they have respect for the sacrament of marriage. Perhaps, this is an effect of modern civilization that Gandhi denounces in *Hind Swaraj*.<sup>3</sup> The husbands are too modern for the Misra sisters: "it was the husbands who were too modern, too smart. They played golf and they danced and gave cocktail parties" (151). This excerpt has a touch of Gandhian angst against modern civilization, the dehumanizing effect of civilization on the people. The Misra girls were too simplistic for the husbands' taste and they were sent back home. It also sheds a certain light on the irony of life. Men

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<sup>2</sup> Mandall, Nancy. Feminist Issues: Race, Class and Sexuality. Ontario: Prentice Hall Allyn, 1998

<sup>3</sup> Gandhi, M.K. Hind Swaraj & Other Writings. Ed. Anthony Parel. U.K.: Cambridge UP, 1997.

look for women who are humble and good, at the same time capable and commanding. Perhaps, Desai wants to highlight the inconsistent nature of men. The husbands feel that since they are modern, they deserve better than the Misra sisters, which is a dig at the male superiority complex. Thus, from a Gandhian perspective, the husbands fail to fulfill their role as men, elevating women as the nobler of the two.

Moreover, the Misra sisters' father is old and decrepit and he cannot support them. The two brothers are sedentary parasites. Instead of contributing towards the running of the house, the brothers live off their two sisters, who teach dances to young girls. The Misra father describes his sons as "fat, lazy slobs, drinking whisky. Drinking whisky all day that their sisters have to pay for—did you ever hear of such a thing? [...] Useless rubbish, my sons. Everything they ever did has failed..." (Desai, 32-3). What the father says and Gandhi's belief of men are exactly the same - they fail to perform their duty. In view of Gandhi's perception of men as bread-winner, Desai's juxtaposition of both good-for-nothing men and women is to drive at the core of the truth. It is very evident that the brothers are exploiting their sisters and living off them. The Misra brothers pursue their hobby of singing and drinking, and having a grand time; while the sisters slave away to earn a decent living. Perhaps, Desai is hinting at certain truths regarding the gender imbalance and their respective roles that pose a challenge to Gandhian ideals about women and men. It not only exposes the incongruity in the society, it even alludes to patriarchy and gender difference. In exposing the imbalance, Desai is trying to accomplish two things—reveal the social discrimination against women although functioning within Gandhian ideals, and the irresponsibility of men failing to perform their part in the society. Thereby showing how women, despite many social disadvantages, come out as the champion by their moral strength.

Contrary to the Misra sisters and Mira Masi, Bimla is a different breed of woman. As Gandhi advocated, Bimla reacts very strongly to Misra sister's early marriage. She scorns marriage and pleads for higher education for women. Bimla thinks that marriage alone is not enough; one should have a vocation, do things, live with self-respect and be independent. Rama Jha comments: "Gandhi revolutionized the social milieu in still another significant sense, that is, by transforming woman's status in Indian society. For the first time in Indian history, Gandhi's thought and action gave a new definition to woman as an individual—-independent and capable of taking care of herself" (39). In this respect, Bimla is that new defined woman. She fits in agreeably with what Gandhi says about marriage: "to remain single if need be" (quoted in Bose, 87). Bimla swears never to marry at all. She wants higher education and to be an independent woman. In one of his speeches, Gandhi questions the value of education if it did not make people sensitive to social customs that dictates marriage (Bose, 86). From this perspective, Bimla is sensitive and she does not want to be burdened with a man and remains "wedded to independence" (Bose, 87). Thus, Bimla is that manifestation of Gandhian ideals.

Bimla even rejects a prospective suitor, Dr. Biswas. She refuses to go out with him to the movies and to the theatre, but Dr. Biswas misreads Bimla's refusal. Instead, he thinks that she is sacrificing for the sake of the family. Bimla is quite indignant at being misread. On the surface, Bimla's predicament appears quite similar to that of the sacrificing women, giving up her own life for the sake of the family. The truth is that she rejects Dr. Biswas because she has no desire to be saddled with a wimp like him. In this light, perhaps Desai is trying to create a different Indian woman who is

not bound by tradition, but a heroine who wants autonomy rather than domestic bliss. She says, "I shall work—I shall do things [...] I shall earn my own living—look after Mira Masi and Baba and—and be independent. There'll be so many things to do..." (Desai, 140-1). These statements without a doubt express the independent nature of Bimla. She does not want to be trapped in the same situation like the Misra sisters. Bimla, not only rejects the marital bliss, she goes and gets a degree and starts working as a lecturer in one of the colleges. Hence, in creating a spinster heroine, Desai has fashioned a new defined woman. Although Bimla fits in perfectly with Gandhian ideals against marriage, she poses a little challenge to that very principle. She does not become the epitome of the self-sacrificing woman, but an autonomous identity.

Nevertheless, Bimla's role in the novel could be viewed from both sides of the lens. In one way, she becomes the stereotypical suffering woman, bearing the burden of the family. She becomes the sole bread-winner in the family, having to look after old Mira Masi and an autistic brother, Baba. However, it could be argued that Desai is not presenting a suffering woman, but challenging the stereotype character, making her the nobler of the male counterpart by her non-conformity. It is fascinating to note how Desai inverts the traditional role; instead of Raja (Bimla's brother) taking up the task of the father, Bimla takes up the place of the father. She is a self-composed and an authoritative woman. She takes charge of everything at home, and she does become the mistress of her household, but not like what Gandhi says a "passive one". She is very active and efficient, to the point of appearing intimidating. Thus, Desai's depiction of Bimla earning and supporting her family is also to expose the lack of responsibility of the male members of the family. According to Gandhi: "women supplement the meager resources of the family but man remains the main bread-winner..." (1958:10). But none of Desai's men come out as decent personalities. Instead, they fall short of fulfilling the roles identified by Gandhi. Hence, women prove to be the better of the two.

In opposition to Bimla, there is Tara, a sister to Bimla and Raja. At the first glance, she seems to be the perfect epitome of the Gandhian ideal. She is in favour of marriage and running a house. However, Tara is very different from Bimla. She is drawn more towards marriage and raising a family. She does not seek any higher education. All she wants is to marry and be the "care-taker in every sense of the term" (1958:9). In this sense, Tara fits in perfectly with what Gandhi says about women being the sole nurturer, the manager and the keeper of the homes. The question posed is: is this Desai is trying to convey through the depiction of the character? It is debatable. At times, Desai seems to be in agreement with Gandhian ideals, sometimes not. Perhaps, Desai is conveying a different picture altogether. In doing so, she is creating a different kind of feminism that poses a challenge to Gandhian ideals.

We see Tara and Bakul fall in love and marry. Bakul declares, "I must take you with me, Tara, [...] This place is bad for you – so much sickness, so many worries. You are too young for all this. I must take you away" (71). So Bakul takes Tara away from her home, thinking her very delicate and wanting to take care of her. In trying to be a caring husband, he has made a different woman of her: "he trained her and made her into an active, organized woman who looked up her engagement book every morning, made plans and programmes for the day ahead and then walked her way through them to retire at night" (21). In his attempt to take Tara away from the sad realities of

life, Bakul obliterates her identity as well. Not that she showed any inclination to be independent, but somehow he has made her his ideal woman, fulfilling the roles that he expects her to fulfil. He feels disappointed when she reverts to her old self again: "So I only have to bring you home for a day, Tara, and you go back to being the hopeless person you were before I married you" (17). From this perspective, Bakul seems to be a dominating man, who wants the woman to function according to his whims and fancies, which makes him a patriarchal figure. He expects her to conform to his wishes. The strange thing is that men like women to be very compliant and obedient; yet at the same time, they want their women to be decisive and strong-willed. It is very paradoxical. By making Tara perform according to his wishes, Bakul feels that he is helping her, revealing a typical male chauvinism, living up to the stereotype of a 'model man'. He exclaims, "I thought I had taught you a different life, a different way of living. Taught you how to execute your will. Be strong. Face challenge. Be decisive. But no, the day you enter your old home, you are weak-willed and helpless and defeatist as ever" (17). It clearly reveals a classic male characteristic. This is where the Gandhian ideal becomes a little problematic. If the man is the sole bread-winner as Gandhi clearly states, there is every danger of woman losing her identity. The bread-winner will not only try to eliminate woman's identity, he will make the woman function within his ideology, thereby promoting patriarchy. In that case, there is a little contradiction between Gandhian ideals and Desai's representation. Tara does not become the self-sacrificing woman with the virtue of endurance; instead she becomes the typical oppressed middle class woman, functioning within the parameters of the husband's will and desire. Thus, under the veneer of homely life, Desai exposes patriarchal domination.

Anita Desai's portrayal of the theme and her characters are so interwoven with truths concerning particular details of society as to bring in a different perspective to Gandhian ideals. Desai seems to conform to what Gandhi says about child marriage and ill-treatment of widows. She seems to reinforce Gandhi's fight against social evils. However, Desai does not necessarily believe in women being the embodiment of sacrifice. Instead, she shows a different aspect of the self-sacrificing women—oppressed women, exploited beyond their capacity. Nevertheless, the anguished women bear their suffering in a silent and dignified manner. They don't break down under any pressure; instead by the virtue of their endurance, humility, moral strength, and gentleness, they come out as the champion. Not only do they endure their suffering, they even earn their own living, which in effect transcend the Gandhian belief about women not becoming the bread-winner. Thus, Desai exposes seriously flawed conventional prototype male characters who ignore their responsibility. By depicting men in their imperfect conventional nature, Desai shows how men fail to operate within the Gandhian ideals, thereby accentuating the noble traits of women.

Thus, writing for Desai is more than telling stories; it is more of representing social reality. Her characters are a product of the milieu, molded and affected by the norms of the society they live in. Her writing is an attempt to go deep into the complexities of existence. In so doing, she tends to oscillate between agreement with Gandhian ideals and sometimes by posing a little challenge to that very ideal, thus exposing certain social truths. She writes: "writing is to me a process of discovering truth — the truth that is nine-tenth of the iceberg that lies submerged beneath the one-tenth visible portions we call reality. Writing is my way of plunging to the depths and exploring this

underlying truth ..." (quoted. in Sharma, 11). For that matter, even Desai herself is working within a Gandhian ideal - art becoming a search for and account of truth. Rama Jha comments that, "through Gandhi, this world, the world of everyday life of social activities, of political freedom, of economic realities and of human relationship gained importance and prominence in the minds of the educated Indians" (29). Therefore, Gandhian thought and ideal provided the writer with a sense of reference, and the need to relate themselves to their social milieu. Hence, Desai's portrayal of the female characters seems to conform to Gandhian ideals, yet at the same time presenting a different dimension to that very ideal. Nonetheless, her depiction of the suffering women juxtaposed with the male counterpart elevates the status of women, making them the nobler of the two despite their oppression and exploitation.

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## Helping Children of Alcoholics: What Can Schools Do?

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Alcohol is perhaps the most widely abused substance because its use is socially accepted. While it is hard to find the statistics on its use in Bhutan, it is not very difficult to ascertain the extent of its use. The media frequently remind us of its extent with news items on illnesses, accidents, fights, and other problems related to alcohol consumption. The place that alcohol holds in our culture and number of bars in town give us a good indication of its use. The tangible as well as intangible cost it incurs on society is bound to be very high. Even in developed societies where access to alcohol is relatively more difficult, a lot of problems find their roots in alcohol. For example, according to the U S National Association for Children of Alcoholics (NACOA, 2001), alcohol was also found to be a key factor in 68% of manslaughters, 62% of assaults, 54% of murders and attempted murders, 48% of robberies, and 44% of burglaries. The cost to society is estimated to be in excess of \$166 billion each year.

One of its adverse impacts that often tend to go un-noticed is the influence it has on children who grow up with alcoholic parents. Children of alcoholics (COA) miss out a lot on normal development; and they are most likely in every school. Schools need to be aware of them and provide help. This paper looks at the risk factors that COAs face and explores ways in which schools can help them.

### Risk Factors

COAs not only suffer illnesses like Fetal Alcoholic Syndrome (FAS), they are also at high risk to develop alcoholism, maladaptive behaviour, and academic failure (Johnson & Left, 1999). NACOA (2001) believes that approximately six percent of the offspring of alcoholic women have Fetal Alcohol Syndrome (FAS). People with FAS demonstrate growth deficits, morphologic abnormalities, mental retardation, and behavioural difficulties. Secondary effects of FAS among adolescents and adults include mental health problems, disrupted schooling (dropping out or being suspended or expelled), trouble with the law, dependent living as an adult, and problems with employment.

Studies have shown alcoholism to be consistently higher in families with history of alcoholism. For instance, Swain (1991) found that in comparison with randomly selected children from the same community, COAs were found to be at a much higher risk. Chassin, Pitts, DeLucia, and Todd (1999) also reported similar findings in their longitudinal study of COAs. On the strength of his many studies, Goodwin (1985) concluded that the sons of alcoholic biologic parents adopted at birth were four times more likely to become alcoholics than were the sons of normal control fathers.

COAs are also considered more likely to be the targets of physical abuse and to witness family violence (Robinson & Rhoden, 1998). They experience disruptions in family rituals like dinners, holidays, vacations etc. Abbot (2001) considers maintaining consistency around such important family activities are protective for some alcoholic families as are consistent and nurturing significant others in the lives of the children. Johnson and Left (1999) reported that the environment of COAs is characterized by a

lack of parenting, poor home management, and a lack of family communication skills, thereby effectively robbing them of any modelling or training on parenting skills or family effectiveness. They are also known to be characterized by emotional and physical violence; decreased family cohesion, and organization; increased family conflict, isolation and stress including work problems, illness, marital strain, and financial problems; and frequent family moves.

COAs are not only modelled substance abuse but are also subject to decreased parental monitoring. Most of them never receive the nurturing that is crucial for normal development. The lack of parental supervision is typically characterized as having both social and academic problems at school. COAs have also been reported to be more frequently diagnosed with behavioural disorders like ADHD, conduct disorder and oppositional disorder (Reich, Earls & Frankel, 1993).

### **School as the Setting for Prevention and Intervention**

The school is a logical place for prevention and intervention because it is the environment in which large numbers of children 'are available for long periods of time, and it is the setting in which problems relating to parental alcoholism will be most consistently discernible. Children bring to school the habits, actions, thought patterns they learn at home as they interact with parents and siblings (Powell, Gabe & Zehm, 1994). Schools have the advantage of addressing the issues through the curricula or as co-curricular activities in non-stigmatizing ways. Children may resist attending programmes in mental health centres because of the negative stigma or embarrassment. Schools are also likely to have several COAs and addressing them as special groups may help them understand that they are not alone, and help is available.

Emshoff and Price (1999) suggest that prevention and intervention will be most effective when multiple risk and protective factors are addressed within the multiple settings in which children live. Children spend a good part of their time in school; and the school can serve as a focal point for the mobilization of prevention and intervention services involving other professionals, parents and the community.

### **Prevention and Intervention**

Several types of programmes have been developed for COAs. Emshoff and Price (1999) categorize them into three types. "Universal prevention" programmes are designed for the general population. "Selective prevention" programmes are those designed specifically for identified or self-identified COAs. "Indicated prevention programs" are designed for children with addicted parents who also have specific emotional or behavioural problems. Schools should aim to address them at all three levels if at all possible. Universal prevention programmes ought to be a part of the curricula while the latter two may be more of specialized programmes involving professionals like counsellors and psychologists.

Any prevention or intervention programme must consider certain important aspects of COAs. First, the influence of the children's developmental stages must be considered. Elementary school children do not always have realistic perceptions of relationships and causal links and thus often feel responsible for the drinking parent. The middle

school years are the period in which many children begin drinking alcohol and using other drugs; and older adolescents often experience both self-esteem and mental health problems.

Second, children's identity development is another serious issue that needs to be considered. Their identities are largely shaped by the roles they play within the family. According to Robinson and Rhoden (1998, p.37), "these roles, although they appear to function effectively in childhood, shape children's identities and become a noose around children's necks as they grow into adulthood. These roles, each different from the other, all serve the same purpose: to disguise the disease of alcoholism." Four typical roles in alcoholic families are the hero or the responsible child who is usually the class star at school; the scapegoat or the acting-out child usually seen as the problem child at school; the lost child or the class isolate; and the mascot or the class clown. Teachers especially need to be sensitive to these roles and be aware that they represent what they experience as COAs. For instance, family heroes may need to be reassured that it is alright to relax and be doing nothing sometimes; while fostering a sense of belonging may be helpful for the lost child.

Powell, Gabe and Zehm (1994) assert that "denial, lack of clear boundaries, inconsistent behaviour, and broken promises typify addicted home environments", and that any effort to reach out to COAs should keep these in mind.

The following should be some of the important aspects of programmes for COAs:  
Information

COAs are most often unaware of the risk factors involved in the environment in which they live. Making them aware of these risk factors and providing them with useful coping skills through information and education can help them deal with it. COAs who were aware of their risk status were found to drink significantly less than the ones who were unaware of their risk status (Abbot, 2001; Kumpfer, 1989). It is also very common for COAs to have misconceptions about alcoholism. Providing some amount of information regarding alcohol and alcoholism to reduce misconceptions will be very helpful. For example, getting children to view alcoholism as a disease beyond their control helps the child reduce self-blame and guilt about parental drinking (Robinson & Rhoden, 1998; Johnson & Left, 1999). Such information on alcoholism can be a part of the school curricula or a special programme targeted at COAs and their parents or the community.

Robinson & Rhoden (1998) suggest bibliotherapy as a valuable intervention strategy in alcohol education, given that care is taken to consider the child's age and reading level. Bibliotherapy is the use of reading materials such as stories that carry useful information related to a problem that a person may be facing. When successful, it is believed to lead to an achievement of insights as readers internalize some of the coping behaviours exhibited in the book and apply them to personal problems.

### **Building Coping Skills**

Promoting coping skills should be the focus of providing COAs with prevention and intervention strategies. They can be viewed as protective factors that help COAs cope

with stress and dealing with their risk status. Emshoff and Price (1999) distinguish between two types of coping skills.

Emotion-focused coping involves a modification of emotional distress without changing the source of the distress. It is an indirect process by which the child seeks social support or uses strategies, such as distancing or reframing the negative aspects of the situation, to emphasize the positive. Because COAs do not have control over parental drinking, it is an important coping skill. Children can be taught to look for external support, such as another family member or a friend's parent.

Problem-focused coping involves strategies to change or to manage the problem situation. This might include specific survival skills such as how to live within an alcoholic home and how to handle situations such as driving with a drunk parent and explaining parental behaviour to friends. Other skills include information about decision-making, problem-solving, communication, and peer-resistance skills. Children can be taught how to use both emotion-focused and problem-focused techniques in conjunction to manage their stress. Of course, an important part of successful interventions is the provision of opportunities to practice these newly acquired skills. (p.1116)

Coping skills can be taught through role-playing, modelling, and various other activities. Robinson and Rhoden (1998) suggest an activity called "The wheel of misfortune" in which children work in teams to solve real-life problems found in alcoholic families. Each team spins the wheel and lands on a letter that corresponds to a problem scenario which they solve together. Such activities help children improve their self-esteem, realize that they have choices and are capable of handling unexpected situations.

Play therapy activities can be very therapeutic for COAs as a release for their pent-up emotions. They can engage in imaginary plays wherein they can get emotional satisfaction by engaging in play or conversation with imaginary playmates. Dramatic play can be effectively used to practise coping skills with guidance from teachers.

### **Group Treatment and Social Support**

Group treatment has been highly recommended because it reduces feelings of isolation and negative emotions while increasing relations and feelings of belonging (Arman, 2000; Robinson & Rhoden, 1998). Emshoff and Price (1999, p.1117) contend that "social support is a natural result of group participation. Sharing common reactions and coping mechanisms builds group cohesion. Many participants learn for the first time that they are not alone in dealing with parental alcoholism". Groups allow participants both to receive and to give support.

Robinson and Rhoden (1998) emphasize that helping COAs must focus not only on the child, but the entire family, and the social network within which it exists. Programmes involving the family as a group and also the active participation of the community have been reported to be effective. Even close relationship with just one significant adult makes a big difference in their lives. Helping COAs and perhaps even other people around them with practical information on how, whom or where to reach for

support when they need help will be extremely useful. Adult COAs often report that some adult made all the difference to them. It may have been a teacher, neighbour, parent of a friend, or a grandparent, and while the problems at home may have never been discussed, the concern and encouragement mattered. Religious observance has also been found to be a protective factor for many of these children (Abbot, 2001).

#### Emotional and Psychological Issues

COAs suffer numerous emotional wounds like anger, fear and anxiety, guilt, sadness and depression, confusion, embarrassment and isolation, and grief. As a result of these traumatic experiences, their self-esteem is damaged; they usually have an external locus of control and experience relationship problems later in life (Emshoff & Price, 1999; Robinson & Rhoden, 1998). It becomes very important to address these issues as a part of intervention.

Emshoff & Price (1998) warns that COAs often use a perfectionist focus as a means of acquiring self-esteem. Self-esteem based on perfection obviously is unattainable, and sets them up for failure. The more they understand that they are not responsible for their parent's alcoholism and cannot control or cure it, acquire healthier means of coping, and are supported by others who share the same experience, the better they will feel about themselves. Providing a psychologically safe and trusting environment at school can be very helpful. Teaching autonomy through simple decision-making processes in the classroom can help them break fear and dependency. Allowing them to make choices as in what they would like to do during play time or what they would like to write about for an assignment can help them learn to make decisions. Robinson and Rhoden (1998) also emphasize that teachers need to be consistent and stick to their commitment, however minor, to model and develop feelings of trust.

#### Alternative Activities

Schools can help COAs through healthy alternative activities like sports, club activities, and other similar experiential programmes. Such activities can help build a sense of self-efficacy, increase their self-esteem, provide a positive peer group, and increase life skills such as problem-solving and communication.

#### Conclusion

COAs are surrounded by risk factors and do not usually enjoy the healthy environments that normal children do. Schools can be the right place to provide help to COAs. In order to do that, schools first need to understand the circumstances under which COAs live, their developmental stages, their family, community and culture. Prevention or intervention programmes should also include information and education, building coping skills, social support and healthy alternative activities.

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## Assessment for learning and assessment of learning

-Els Heijnen, Project Advisor  
Support for Teacher Education Project

*Continuous Formative Assessment or CFA is about teachers listening closely to their students and observing them as they are engaged in learning. It is about teachers trying to understand what their students understand. And, it is about teachers responding adequately and flexibly to the different learning needs that they observe. It is continuous or ongoing because it involves daily observations and documentation of students' work, without grading them or comparing them with other students. Formative assessment is assessment **for** learning and is imbedded in the daily teaching-learning process. Summative assessment is assessment **of** learning, which mostly takes place after a lesson, topic or unit.*

Why do teachers assess students? What do we exactly want to assess and why? Are we collecting information in order to provide documentation of individual students' progress over time? Do we assess to be able to convey our expectations to students? Will the information gathered be used to guide or change our teaching? If it is any or all of these, the focus of our assessment is formative and on individual students.

If, instead, data are collected for the purpose of monitoring the outcomes of groups of students or schools and are to be used as a basis for planning and implementing programme improvements, or to provide guidance for the allocation of resources to a programme, the assessment is most likely to be summative and focusing on the programme rather than on individual students.

Teachers ask their students questions so that they know how students are doing and so that students know what else they need to learn. Such assessments can be formative or summative. It is summative when it summarizes what students have learned at the end of an instructional segment, mostly resulting in a score or grade. This kind of assessment dominates in many schools and education systems as their results typically "count" and appear on report cards. By itself though, summative assessment is an inadequate tool for maximizing learning because waiting till the end of a teaching period to find out how well students have learned is simply too late.

In many classrooms and schools, assessment has also increasingly been used to compare students with one another. Today, this sorting function of assessment and checking tends to dominate in our schools. It grades and assigns scores for different school work, sorts and tracks individuals, separating the "qualified" from those judged less qualified.

Such assessment also serves a reporting function: parents, policy makers and teachers look to the different summative assessment tools as the proof that students are learning. However, educational research is increasingly revealing that this may not be the case for most of our children.

Thus, how can we reclaim assessment as a way to adjust teaching and learning and enable all students to learn whatever their individual learning differences and needs? How can teachers again start using assessment to focus on improved learning? This could be done through (continuous) *formative* assessment!

Everyday, teachers observe students, listen to their conversations, and talk with them about their ideas, writings and other work. Teachers try to understand and enhance students' thinking and skills. This daily information or input helps teachers to decide what next steps to take to further support student learning and development. When these things are done in a purposeful way, it becomes Continuous Formative Assessment (CFA).

What we need in our schools is a shift from *quality control* in learning to *quality assurance* or accountability. Traditional approaches to instruction and assessment involve teaching certain material, and at the end of the teaching, working out who has and has not learned it – similar to quality control in manufacturing. Assessment *for* learning though involves adjusting teaching as needed while the teaching and learning is still taking place – a quality assurance approach. Such quality assurance also involves a change of attention *from* teaching *to* learning. The emphasis is on what students get out of the process rather than on what teachers are putting into it. It requires an approach to teaching that facilitates learning and where students, rather than teachers, do most of the work!

Formative assessment kind of blurs the line between teaching and assessment. If done well, assessment is difficult to distinguish from instruction. Everything students do – talking in groups, completing seat-work, asking and answering questions, working on projects, handing in assignments, even sitting silently and looking confused – is a potential source of information for a teacher about how much they understand.

Teachers, who consciously use assessment to support learning, take in this information, analyze it, and make instructional decisions that respond to the understandings and misunderstandings that such assessments reveal. As such, CFA is an inclusive strategy that helps teachers to better respond to learning diversity.

Research - consistent across countries, content areas and age groups – shows that using assessment *for* learning improves student achievement more than external tests or educational reforms. In addition, research tells us that:

*".... Formative assessment helps low achievers more than other students and so reduces the achievement gaps while raising overall standards ...." (1)*

On-going assessment and adjustments on the part of both teacher and student support the process for optimal learning of every student. Some strategies that facilitate assessment for learning that teachers of all content areas and all levels can use are:

- Clarifying and sharing learning intentions and criteria for success

*For example:* Students may understand learning objectives better when the teacher circulates work samples that a previous class completed, in prompting discussions about quality. Students decide what is good and what is still lacking in the weaker work samples. It helps them to apply better standards themselves.

- Facilitating effective classroom discussions, questioning and learning tasks.

*For example:* Teachers often spend a lot of time on whole class question-answer sessions. Such sessions check existing knowledge rather than facilitating new learning. Moreover, teachers mostly listen for the “correct” answer.

Open-ended questions that enable students to reflect on, clarify and explain their thinking may provide more valuable information for teachers than just a “correct” answer. Questions need to be well planned to either prompt students’ thinking or to provide teachers with information that they can use to adjust teaching to meet learning needs.

- Providing feedback that helps learners to move forward.

*For example:* Grades, scores or comments like “good job” do not make students think. What *does* cause thinking is feedback that mentions what a student needs to do to improve.

- Activating students as the owners of their own learning.

*For example:* Students indicate with red or green cards to the teacher whether they have understood or not. Students are allowed to assess their own work.

- Activating students as teaching resources for one another.

*For example:* Peer assessment and peer feedback, which focuses on improvements (without grading), because peers often communicate more effectively with each other than adults do with students.

Teaching practices that support these strategies are low-tech, low cost and feasible for individual teachers to implement. As such, they differ greatly from large-scale interventions such as class-size reduction or curriculum reforms which are difficult to initiate or influence by teachers.

Teachers using assessment for learning continually look for ways in which they can generate evidence of student learning, and they use this evidence to adapt their teaching to better meet their students’ learning needs. Questions and answers in such a learning environment decide the direction of instruction, because it reveals how students are thinking and reasoning. This also highlights why it is important to ask students who provide correct answers how they got their answer.

Another assessment for learning is diagnostic or pre-assessment, which in fact precedes instruction. Teachers use this kind of assessment to check students’ prior knowledge and skill levels, learners’ interests and learning styles. Diagnostic assessments or pre-assessments provide information to help teachers plan their lessons and to guide differentiated instruction.

(Continuous) formative assessment includes both formal and informal tools, such as un-graded quizzes (e.g. true-false quizzes), purposeful questioning, teacher observations, draft assignments, think-alouds, learning logs and portfolio reviews.

Formative assessment outcomes though must never result in summative evaluation and grading!

We can make learning more meaningful and sustainable also in summative assessment by focusing performance goals not on recall of facts or memorized formulas, but on how students transfer knowledge and how they use their knowledge and skills in new situations, thereby demonstrating their understanding and content standards. It certainly helps students to see reasons for their learning.

Teachers must differentiate their teaching and respond to diversity in learning needs in a classroom. It is, however, as important to be responsive in assessment. Students differ not only in how they prefer to take in and process information, but also in how they best demonstrate their learning. Some students need to “do”; others are best at oral explanations. Some students excel at creating visual representation, others are better at writing.

To make valid assessments about learning, teachers need to allow students to work in ways that represent their strengths. A standardized approach to classroom assessment may be easier and more efficient, but it is often not fair because any chosen format will favour some students and penalize others. Like teaching, assessment becomes inclusive and responsive when students are given appropriate choices to demonstrate their knowledge, skills and understanding!

What is especially meaningful for supported and improved learning is providing *feedback* based on Continuous Formative Assessment (CFA). Ironically, feedback which enhances learning is limited or nonexistent in most classrooms. To serve learning, feedback must meet at least the following four criteria: it must be timely, specific, understandable to the receiver and allow for self-adjustment on the student's part.

Feedback on strengths and weaknesses needs to be prompt for the learner to be able to improve. Waiting two weeks to find out how you did will not help your learning very well. In addition, specifying the feedback will help students understand both their strengths and the areas where they can improve. Too many teachers consider grades and scores adequate feedback. However, a B- or 62% on a test or assignment is no more helpful than comments as “Well done” or “You can do better”.

Specific feedback sounds more like: *Your paper is generally well organized and contains a great deal of information on your topic. You used many different sources and documented them correctly. However, your paper lacks a clear conclusion, and you did not really answer your basic research question.*

In that, regard language use in rubrics is often not very clear or specific either. A simple way to test a feedback system is by asking: *Can students tell specifically from the given feedback what they have done well and what they could do next time to improve?* If not, then the feedback is not sufficiently specific or understandable.

And finally, students need opportunities to act on feedback – to refine, revise, practise and retry. In such an on-going assessment, it is important to facilitate a process where

students can set their own personal learning goals, employ strategies and assess their own work using certain criteria before showing it to the teacher.

If judgments between self-assessment and teacher assessment are different, opportunities arise to discuss the criteria, expectations and performance standards. Over time, teacher and student judgments tend to align. In fact, students tend to be harder on themselves than teachers are!

By using Continuous Formative Assessment (CFA) and striving to better understand and guide their students' thinking and learning, teachers may become more reflective about their own practices and how they impact on student learning. As such, for students and teachers, CFA is not an end, but a beginning! **CFA is a starting point for more learning!**

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## Where do you get your ideas from?

-Nicole Plüss<sup>4</sup>

As a children's writer, I often visit schools and talk to kids about writing. There is one question I am asked more often than any other. "Where do you get your ideas from?" The faces and places have all been different but this question has always come to the lips of bright-eyed children.

I've often wondered why this is so. Mainly because this question been asked of me so often and also because it's so difficult to answer. Where does anyone get their ideas from? In fact, where do my ideas come from? Let alone, are they any good?

My answer is a work in progress. In the early days, I tended to give specific answers. For example, the idea for a short story that came to me in a dream. Quite a few ideas have come through dreams. But, as we all know, dreams lack structure and, quite often, sense. They can tend to the weird and there's also the problem of remembering them when you wake up. So, I no longer mention dreams. It's too misleading and I really would like to help all these kids on the hunt for ideas.

On occasion, I have taken a practical slant. Here is my latest written response – "I find that the more time I spend thinking and researching, the more ideas I get. So, that must be where they come from. I also give myself time for the ideas to come. I take the time to think, read, research and talk to people. Now, I have too many ideas and not enough time." There is truth in this but it's not complete. It's the sort of answer you come up with when you can't think of anything better. And I would like to think of something better.

Sometimes, of course, real life can help you out with an idea. Years ago, one slow day in the office, a colleague told me the story of her niece who had fought her way back to health from a terrible road accident. Tears of love and admiration gathered in my colleague's eyes as she spoke of her young niece. I listened in complete stillness, knowing that this story held rare grains of truth and meaning that would stay with me through life.

Almost, as I listened, I felt the idea for a book that had been whirling around in my head settle into place. This encounter released the idea as simply as a key in a lock. The book was published by Harper Collins, with my colleague's blessing, a year later.

So, ideas can come from real life. Of course they can. Ideas are like the air we breathe, everywhere and constantly shared. Every minute of every day holds the key to a story. Life stories, family stories, tragic stories, funny stories, love stories. There are so

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<sup>4</sup> *Nicole Plüss is an Australian Children's writer. In September and October 2005, Ms Nicole was delighted to visit Bhutan as an Asialink Literature Resident. During this residency, Ms Nicole undertook a series of workshops on reading and writing for schoolteachers in association with the Bhutanese Department of Education.*

many stories out there vying for attention. How do you choose? How do you know which part of real life to use?

Perhaps the answer is contained in those grains of truth and meaning. My colleague's story told me something about how I might live my life. It was a story of the kind that has sustained humans since time began- People can be brave in the most difficult circumstances - People who love you can help you pull through - No one travels through life alone. The universal was contained in the particular.

But can I give this answer to children? Search for stories that help us live our lives? The stories that help us make sense of our world? Identify the universal in the particular? No, I can't. It may be as close to correct as I could hope for but I don't think it would be of much help to the kids. I need a better answer. Not something more accurate, just more accessible, more useful.

So, lately, I've been wondering exactly what these children are asking me, so many of them, so often and so consistently. They don't really want to know where I get my ideas from. That wouldn't be of much use. What they really want to know is where they can get some ideas of their own. So, of course this begs the obvious. Why do all these kids think that they don't have any ideas? Or at least, why do they think their ideas aren't good enough for a story?

Anyone with a passing acquaintance with a child will acknowledge their inbuilt talent for narrative. Eventful, fantastic, intricate, though occasionally rambling stories are almost a given. Pre-literate children are especially creative. *Imagine* and *create* are words made for them – it's what they do best.

Their whole world of play is a constant incredible story. How do these wonderful, creative, crazy pre-schoolers turn into the primary school children in front of me, asking where ideas come from? Now that's a hard question.

I think the best answer comes back to Plato, "Know thyself". Well, in this context, "Know thy own story." We all have our own ideas. We all have our own unique and interesting way of seeing the world, children especially.

So, the next time I find myself in front of the bright-eyed kids, I think I'll just throw some questions back at them. Well, at least ask them to ask themselves some questions. Look within for the answer, kids. What is the story you have to tell? Why are you the only child on earth who can tell this story? How do you see the world? What is the truth as you see it?

Then, they might go about telling it in the best way they can. A good story, well told is a fine thing. The universal in the particular is even better. The *create* and *imagine* part should come naturally. The big people have to help with the permission, encouragement and confidence.

So, there you have it. Ask a simple question.....

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**Portrait of an Institute:  
Royal Bhutan Institute of Technology,  
Phuntsholing**

*CHANDRA SHEKHAR SHARMA  
Lecturer in English,  
RBIT, Phuntsholing.*

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***THE BACKDROP***

The Royal Bhutan Institute of Technology (formerly known as Royal Bhutan Polytechnic) was established on 22<sup>nd</sup> February 1972 at Dewathang under Samdrupjongkhar Dzongkhag. The Institute started with twelve students pursuing diploma programme in Civil Engineering, Electrical Engineering and Certificate Course in Surveying. The first batch of Surveyors graduated in 1974. The certificate programme was discontinued in 1978 and the Diploma in Mechanical Engineering was introduced in August 1988. Certificate programmes in Drafting and Surveying were reintroduced in the year 1976-77 and were later discontinued in the year 1990.

Royal Bhutan Polytechnic received substantial assistance from the United Nations Development Programme (UNDP) to develop the various laboratories and workshops and Staff Development Programme.

The first UNDP/ILO project was signed on 9th October 1973 with the primary objectives to "correct Bhutan's heavy reliance on expatriate workers in teaching and operational activities" and "provide additional trained workers to match the anticipated expansion of technically oriented jobs"<sup>1</sup>

The infrastructure of the institute at Dewathang got a new touch through the ADB Project that arrived later. Additional buildings were constructed, equipment were procured and staff were trained to address the shortage of technically qualified technicians.

His Majesty the King commanded on 17th April 1998 to upgrade the Royal Bhutan Polytechnic into an engineering college. However, due to security reasons, the Royal Bhutan Polytechnic was temporarily shifted to the Rinchending Campus in April 2000. The Institute shared the resources of the Royal Technical Institute.

In September 2001, the Institute introduced undergraduate programme in Civil and Electrical Engineering and was renamed as Royal Bhutan Institute of Technology (popularly known as RBIT).

The number of students enrolled for the first time in degree in Civil Engineering was 15 and in Electrical Engineering, it was 10. The first batch of 18 indigenous engineers graduated on 30th June 2005.

RBIT remained an independent educational institute under the National Technical Training Authority (NTTA) until 2<sup>nd</sup> June, 2003. With the establishment of the Royal University of Bhutan, RBIT became a federated member of the Royal University of Bhutan.

Presently, the institute offers four years undergraduate programmes in Civil and Electrical Engineering, three years diploma in Civil, Electrical and Mechanical Engineering and a two-year certificate course in Mechanical Engineering.

The diploma programmes will be relocated back to the Dewathang campus from August 2006. It is envisaged that the certificate programme will be transferred to one of the Vocational Training Institutes.

### **Location**

Royal Bhutan Institute of Technology is the only engineering college of the kingdom. The institute is situated in Rinchending bordering the Phuntsholing-Thimphu Highway. The campus is in the lap of southern foothills that overlook the tea gardens of West Bengal. Its nearness to the town contributes to meeting the requirements whereas its location, a little far from the crowded township, helps in peaceful teaching-learning activities. It has a green, quiet and aesthetic mountainous environment that helps effective learning.

### **Our Vision**

The vision of the institute is "to be a premier institution to meet the changing needs of technical manpower and support in realizing the national vision- Bhutan 2020."

### **Our Mission**

The mission of the Royal Bhutan Institute of Technology is "to provide a forum for aspiring youth to be trained as engineers and technicians, and to upgrade the skills and knowledge of technical personnel to meet the emerging needs of industry, community and individuals."

### **Organisation**

The institute is headed by Principal, Mr Nidup Dorji. The Vice Principal looks after Academic Affairs and the Assistant Principal looks after Students' Affairs. The total staff strength is 91 of which 57 are teaching staff. There are four departments responsible to impart education and training at various levels.

- a. Department of Civil Engineering.
- b. Department of Electrical Engineering.
- c. Department of Mechanical Engineering.
- d. Department of Information Technology
- e. Department of Science and Humanities.

### ***A. Department of Civil Engineering***

Mr Karma Gayleg is the head of the department. The department comprises 15 faculty members. The department is responsible for four years undergraduate degree and three years diploma programme in Civil Engineering. Besides academic activities, the department performs consultancy services in Material Testing, Soil Testing, Surveying and Design.

Department laboratories include Soil Mechanics Lab, Material Testing Lab, Surveying Lab, Remote Sensing and Geology Lab, PHE Lab, Transportation Engineering lab, Plumbing Workshop and Masonry Workshop. Some of these laboratories are at the development stage.

### ***B. Department of Electrical Engineering***

Mr Tshewang Lhendup is the head of the department. The department comprises 16 faculty members. The department is responsible for four years undergraduate degree and three years diploma programme in Electrical Engineering.

Various laboratories in this department are Electronics Lab, Communication Lab, Electrical Machine Lab, Instrumentation and Control Lab, Basic Electrical Engineering Lab, Measurement Lab and Electrical Workshop. The other labs under development are Power Electronics Lab, Power System Lab, High Voltage Engineering Lab and Measurement Lab.

### ***C. Department of Information Technology***

This department shares the responsibility of helping the students to attain competencies in IT. IT courses are compulsory for the students. Mr. Nima Dukpa, Assistant Principal, is the head of this department and is supported by four faculty members. The department has two computer laboratories housing 40 computers for students training purpose and a server room to monitor internet services in the institute. The department is also responsible for the maintenance of the computers in the various centres of the Institute and maintenance of the wireless internet facility in the campus.

### ***D. Department of Mechanical Engineering.***

Mr Karma Dukpa is the head of the department. The department comprises 12 faculty members. The department is responsible for three years of diploma programme and two-year certificate programme in Mechanical Engineering. The various laboratories and workshops in this department are Machine Tool Workshop, Fitting Workshop, Sheet Metal Workshop, Welding Workshop, Automobile Workshop, Hydraulics & Pneumatics Lab.

The rain water gutters produced by the departments are in high demand in the kingdom.

### ***E. Department of Science and Humanities.***

This department fosters understanding in the sciences and humanities. The Vice Principal is responsible for the good health of the department. There are 7 faculty members. The department supports the other departments to teach English, Dzongkha, Mathematics, Management, Engineering Economics and Sciences. The laboratories under this are: Physics Lab, Chemistry Lab.

#### **Other incorporating units**

***Examinations cell:*** The exam cell looks after all the activities related to tests and semester examinations. Printing of question papers, mark-sheets and publication of results are the major tasks that rest with the cell.

***IIR Section:*** The institute has an IIR Section to maintain industry- institute relations and organise programmes for professional development of students. IIR section is a bridge between the institute and technical society. The main aim behind keeping it is to bridge the distance between academia and practical demands.

***Institute Research Committee (IRC):*** IRC is formed to encourage and facilitate research and research proposals of the faculty. Mr Karma Gayleg (HoD, Civil engineering) is the head of IRC.

#### **Outreach activities of the institute**

Besides academic activities, the Institutes also facilitate outreach activities by providing consultancy services and conducting tailor-made short-term training programme to various agencies. Consultancy services include topographic survey, soil test, testing of construction material, concrete mix design. Short-term course on Auto-CAD, STAAD-PRO, LisCAD, Seismic Design, Supervision and Quality Control in Construction, Project Planning and Management, Computer Application and Management, Environmental Impact Assessment, skills up gradation courses in carpentry, masonry, electrical wiring are very popular. The institute organises workshops and seminars for other organisation.

#### **The Programmes Offered**

Currently the institute offers the following programmes.

<b>S.No.</b>	<b>Courses</b>	<b>Duration</b>	<b>Intake 2006</b>	<b>Basic Qualification</b>
1.	Bachelor of Civil Engineering	4 Years	35	XII
2.	Bachelor of Electrical Engineering	4 Years	35	XII
3.	Diploma in Civil Engineering*	3 Years	60	X

4.	Diploma in Civil Engineering*	3 Years	45	X
5.	Diploma in Mechanical Engineering*	3 Years	20	X
6.	Certificate in Mechanical Engineering#	2 years	25	X

\* To be at Dewathang from the coming session. # Proposals due for relocation

**Objectives of Programmes:** The academic programmes are objective oriented. These objectives define the acquired ability of our graduates and technicians. Objectives of different programmes are as follows.

As **Civil Engineering graduates**, they will be able to:

- formulate / prepare project proposals and plans.
- design, analyse, prepare working drawings and estimates of various civil engineering structures.
- execute/supervise the construction of various civil engineering projects with quality control measures.
- Carry out civil engineering related tests and field investigation works.
- carry out survey for civil engineering works.
- carry out feasibility studies for civil engineering projects.
- prepare bid documents, specification of works and evaluate tenders.
- adapt to new technologies/developments.

As **Electrical Engineering graduates**, they will be able to:

- formulate/prepare proposals and project plans.
- design and estimate electrical installation works.
- execute/supervise the implementation of electrical works with quality control measures.
- use relevant software for electrical engineering works.
- identify faults in electrical installation.
- prepare tender documents, work specification, evaluation of tender for electrical works.

Working under the close supervision of a professional engineer, a **Civil Engineering technician** will be able to:

- accurately interpret and communicate written and oral instructions.
- supervise the work of all personnel for whom the technician is responsible.
- accurately communicate the instructions from the professional engineers to the workers.
- identify problems before / during / after the construction, and ensure that timely remedial measures are taken.
- correctly interpret the architectural and structural drawings and suggest changes as per the site conditions and standard code of practices.
- maintain all books of accounts related to the work and make timely reports.
- prepare, interpret and explain the contents of the related tender documents.
- keep abreast of the change in rules and regulations on construction as amended from time to time.

- follow and enforce safety measures at work sites.
- Use related software for electrical work.
- Carry out quality control tests.

Working under the close supervision of a professional engineer, **an Electrical Engineering technician** will be able to:

- accurately interpret the written and oral instructions of a professional engineer.
- supervise the work of all personnel for whom the technician is responsible.
- accurately communicate the instructions from a professional engineer to craftsman and tradesmen.
- correctly identify the causes of various defects in electrical installations and advise on the most appropriate methods of rectifying defects.
- correctly interpret electrical engineering drawings.
- assist project engineers in formulating project plans / proposals and preparation of related designs, drawings and estimates.
- identify problems before / during / after the construction, and ensure that timely remedial measures are taken.
- prepare working drawings from free hand sketches and samples.
- design simple Installations and prepare drawings and estimates.
- supervise the implementation of electrical works at the construction site.
- maintain all books of accounts related to the work and make timely reports.
- prepare, interpret and explain the contents of the related tender documents.
- keep abreast of the change in rules and regulations on construction as amended from time to time.
- follow and enforce safety measures at work sites.
- use related software for electrical work.
- supervise and carry out routine and planned maintenance of electrical installations.
- manage the implementation of electrical projects.
- carry out electrical installation survey and load forecasting.
- carry out quality control tests.

Working under the close supervision of a professional engineer, a **Mechanical Engineering technician** will be able to:

- prepare basic designs, drawing and estimate of mechanical work.
- accurately interpret the written and oral instructions of a professional engineer.
- supervise the work of all personnel for whom the technician is responsible.
- accurately communicate the instructions from a professional engineer to mechanics and operators.
- correctly identify the causes of various defects in mechanical installations and advise on the appropriate methods of rectifying defects.
- correctly interpret mechanical engineering drawings.
- assist project engineers in formulating project plans/proposals and preparation of related designs, drawings and estimates.
- identify problems before / during / after the fabrication / manufacture / construction and ensure that timely remedial measures are taken.

- prepare working drawings from free hand sketches and samples.
- supervise the execution of mechanical works at the work site.
- maintain all books of accounts related to the work and prepare timely reports.
- prepare, interpret and explain the contents of the related tender documents.
- follow and enforce safety measures at work sites.
- supervise and carry out routine and planned maintenance of mechanical installations.
- maintain proper inventories and stores.
- perform machining operations on conventional machine tools with a fairly good degree of accuracy.

### Course Structure

The academic session is divided into two semesters. The degree programme is of eight semesters, diploma programme of six semesters and certificate programme of four semesters. The first year course in degree programme is common to both Civil and Electrical Engineering. The second and third year courses are broad-based with a few common subjects. The final year course is broad-based with electives, seminars and project.

The first year first semester course in the diploma programme is common to all branches of engineering. The second year course is broad-based with a few common subjects. The final year course is broad-based with electives, seminars and project. Certificate course is practical-intensive and is divided into four semesters.

On-the-job training forms an important part of the programmes. While the degree and diploma programme students undergo OJT for six weeks, the certificate students have to undergo it for eight weeks. Students are attached to various organizations to practise their profession and understand the realities of the field situation and be familiar with working environment. Project work in the final year allows the students to integrate their learning in various areas. It instills analytical attitude and team spirit in the students.

### The present student strength

COURSE	YEAR	CIVIL			ELECTRICAL			MECHANICAL			TOTAL		GRAND TOTAL
		B	G	TOTAL	B	G	TOTAL	B	G	TOTAL	BOYS	GIRLS	
B. E	First	20	9	29	22	3	25				42	12	54
	Second	13	3	16	19	3	22				32	6	38
	Third	16	1	17	13	1	14				29	2	31
	Fourth	10	3	13	9	1	10				19	4	23
Diploma	First	39	9	48	38	7	45	15	1	16	92	17	109
	Second	36	10	46	42	8	50	12	4	16	90	22	112
	Final	29	8	37	29	6	35	12	0	12	70	14	84
Certificate	First							15	8	23	15	8	23
	Final							14	13	27	14	13	27
<b>Total</b>		<b>163</b>	<b>43</b>	<b>206</b>	<b>172</b>	<b>29</b>	<b>201</b>	<b>68</b>	<b>26</b>	<b>94</b>	<b>403</b>	<b>98</b>	<b>501</b>

### **Academic Support facilities**

Each department of the Institute has a LRC equipped with computers, printers, photocopy machine, paper shear, binders and OHP. The institute has an internet lease line of 256 kbps. The whole campus is connected to internet through wireless network.

The library is small and modest and is increasing the collection of books, journals and periodicals each year.

### **Co-curricular Activities**

Together with academic activities, co-curricular activities form a necessary part of the training programme. The various activities organised are cultural programme, literary activities, games and sports activities and SUPW.

### **Service to the Nation**

The institute feels proud that it has trained and supplied 1603 engineers and technicians to the nation since its inception in 1972. The alumni of the Institute are shouldering key responsibilities in implementing the Royal Government's plans of developing and maintaining infrastructure for economic growth of the country. The maintenance of roads, operation and maintenance of hydro-electric power generation, transmission and distribution system, operation and maintenance of telecommunication facilities, addressing the needs of rural infrastructure development by strengthening the engineering cells of the Dzongkhag are a few of the prominent areas that the alumni have made significant impact on. Statistics on the numbers of students graduated from the Institute are as follows:

Year	DEGREE						DIPLOMA LEVEL									CERTIFICATE LEVEL									TOTAL		
	Civil			Electrical			Civil			Electrical			Mechanical			Surveyor			Drastsman			Mechanical			B	G	Grand Total
	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T			
1976	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0				7	0	7	
1977	0	0	0	0	0	0	15	0	15	12	0	12	0	0	0	15	0	15	0	0	0				42	0	42
1978	0	0	0	0	0	0	7	0	7	0	0	0	0	0	0	12	0	12	0	0	0				19	0	19
1979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
1980	0	0	0	0	0	0	26	0	26	8	0	8	0	0	0	0	0	0	0	0	0				34	0	34
1981	0	0	0	0	0	0	17	0	17	6	0	6	0	0	0	0	0	0	0	0	0				23	0	23
1982	0	0	0	0	0	0	19	0	19	10	0	10	0	0	0	0	0	0	0	0	0				29	0	29
1983	0	0	0	0	0	0	26	0	26	10	0	10	0	0	0	0	0	0	0	0	0				36	0	36
1984	0	0	0	0	0	0	22	0	22	5	0	5	0	0	0	0	0	0	0	0	0				27	0	27
1985	0	0	0	0	0	0	31	0	31	7	0	7	0	0	0	0	0	0	0	0	0				38	0	38
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
1987	0	0	0	0	0	0	31	0	31	11	0	11	0	0	0	0	0	0	0	0	0				42	0	42
1988	0	0	0	0	0	0	42	0	42	9	0	9	0	0	0	6	0	6	4	1	5				61	1	62
1989	0	0	0	0	0	0	41	0	41	15	0	15	0	0	0	9	0	9	3	2	5				68	2	70
1990	0	0	0	0	0	0	30	0	30	14	0	14	0	0	0	4	0	4	0	3	3				48	3	51
1991	0	0	0	0	0	0	25	0	25	11	1	12	8	0	8	0	0	0	0	0	0				44	1	45
1992	0	0	0	0	0	0	20	3	23	13	0	13	9	0	9	0	0	0	0	0	0				42	3	45
1993	0	0	0	0	0	0	29	2	31	12	0	12	9	0	9	0	0	0	0	0	0				50	2	52
1994	0	0	0	0	0	0	15	4	19	7	3	10	10	0	10	0	0	0	0	0	0				32	7	39
1995	0	0	0	0	0	0	23	3	26	20	0	20	6	0	6	0	0	0	0	0	0				49	3	52
1996	0	0	0	0	0	0	42	8	50	20	2	22	8	0	8	0	0	0	0	0	0				70	10	80



## Steps Ahead

The Diploma Programme will be relocated to Dewathang Campus from August 2006. This will help the institute to increase the intake in its degree programme and to plan for further diversification of the programmes offered. Royal University of Bhutan marks, "Relocations of the diploma section would ease the space constraints... "2 Some of the future plans nestled in the bosom of RBIT are:

- Increase the intake capacity in the existing programme.
- Diversify programmes.
- Promote research activities.
- Develop adequate infrastructure to support and diversify the existing programmes.
- Upgrade academic and professional qualification of the teaching faculty.

## Centre for Educational Research & Development

### Goals

- To support and undertake comprehensive and systematic curriculum development activities aimed at bringing about improvements in our education programmes;
- To foster a culture of enquiry and analysis in the continuous search of knowledge through regular interaction with research centres and institutes of repute;
- To study the current educational practices and developments in relevant fields and provide findings to the concerned agencies in education for consideration of policy options in relation to relevant educational goals, content, and methodology;
- Provide a forum for educators and researchers to support action research and professional development for enhanced performance by our education stakeholders.
- Promote a national pool of scholarship and professionalism in the best traditions of research and development, for the flowering of the Bhutanese mind.

The major thrust areas of the Centre are research, publications and the professional support. To date, the Centre has developed a set of national standards for English for schools in Bhutan called *The Silken Knot*.

It has carried out a study on and made recommendations for the improvement of primary education and initiated modest programmes like the *Rinpung Experiment* and professional development activities, apart from participating in the *National Educational Assessment*, among others.

CERD has been working closely with CAPSD especially in the review and revision of the English curriculum- PP-XII, and supporting the Dzongkha Development Authority in the production of bilingual dictionaries.

The Centre has followed the evolution of our education system and published *The Call: Stories of Yesteryears*, and begun an educational journal called *Rabsel*. CERD has launched the publication of *Yontoen: the CERD Occasional Papers* recently.

Encouraging and initiating action research being one of its thrust areas, CERD invites contributions from our fellow-teachers, scholars, parents, students, and indeed, from anybody who has a stake in education, highlighting issues which have a bearing on the education of our children and the system as a whole.

Please send in your research papers, both hard and soft copies, to:

The Director  
Centre for Educational Research & Development  
NIE, Rinpung, Paro: BHUTAN

Or email them to [cerdir@druknet.bt](mailto:cerdir@druknet.bt)

