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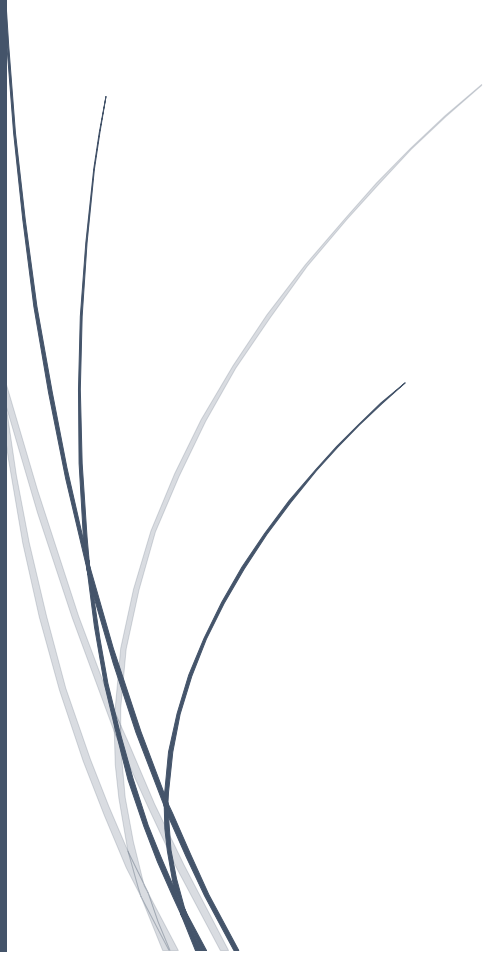
# Dr. Ashraf Iqbal Life Stories

Story by Anonymousperson



University of Central Punjab

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# Chapter 1

# A straight story of a crooked line!

1966 – A bright day at the Muslim High School. A time of assembly, in which all the school children participated, had just ended. Friends had just finished reciting an interesting poetic piece. Dismissed, each section started departing to their classrooms in a straight line. An ever day occurrence! Forming a straight line, at a moment's notice, was not that astonishing. Everyone knew the consequences of not being in a straight line. Every child in our class, with the exception of Billoo, had sanctified the act of forming a straight line. At the sound of the whistle, attired in spotless uniforms, all would turn towards their classes. There were no guiding lines. Yet, these straight lines were deeply etched in our mind. For Billoo, these lines were invisible. Perhaps, he had trouble seeing. The teachers had on numerous occasions asked his father to have his eyes checked. But Billoo's ailment was beyond the ken of an eye-doctor. Walking a crooked line, rather racing along it, was a habit with him. The teacher was right something in his brain was askew.

Today was a beautiful spring day. In our school spring would arrive before its time. The path to the classroom, from the assembly hall, was strewn with flowers of all hues, arranged in a special order. The heart was rendered bright by all manners of colour and scents. Billoo would inevitably manage to crash into a flowerpot, either falling down himself or knocking one over. We had all taken our seats in class, when the teacher entered. He ran his gaze over the classroom scrutinizing our state of hygiene. It was our duty to, by turn, to clean the classroom during assembly. We all knew that mopping was required after dusting with a broom, to add a shine to the floor. It was a daily ritual with our teacher. Like every day, today too our classroom glittered like a newly adorned bride. Even the windows in our classroom, washed with chalk and water, with such vigor, appeared to be transparent. Due to the pleasant weather our teacher appeared to be in a good mood. Immaculately dressed in starched white, shiny clothes, a turban, flared like a rooster's crown, added grace and majesty to his appearance. After taking attendance and praising the students responsible for cleaning the classroom, the class began as usual. Each student was engrossed in listening to him and taking occasional notes in their rough-books. There was absolute silence, beautiful, rarefied surroundings for studying. The teacher, in very refined language, was engaged in a scholarly lecture: the students, in their immaculately clean uniforms, rapt in attention, without any motion. Suddenly, Billoo raised his hand, apparently with the intention to ask a question. Without the teacher's permission he asked such a convoluted and twisted question, that the lecture proceeding in a structured straight line was shattered. The silence in the classroom ended, a din in the air arose: even the quietest of the students, used to respecting the straight line, had a sly crooked grin on their faces. The crown of the teacher's turban suddenly dropped!

One day, in the morning, the teacher enquired of Billoo, why he did such a thing at the beginning of the day. Leaving him no option but to punish Billoo, spoiling his entire day. The straightness of class

twisted. He further told him that if nothing else he should have some sympathy for his friends, some of them who had to cycle to school from great distances, yet asked no crooked questions. "After all what is wrong with your brain, while not so for others," he enquired. "It seems there are no straight lines within your brain. That is why all your copies are filled with crooked, convoluted lines."

Today a gloomy day of fall, not even a trace of sunshine, since the morning, to be found. The rain was in the air since last night. The usual hustle and bustle was missing from the school's staffroom. There was but one question on everyone's tongue. A new inspector of schools, Shahji, was coming visit our school. It was Shahji's first official visit in our division. No one knew what his questions would be. All the teachers were engaged in gossip. Their jobs were at stake. There were strange stories floating about Shahji. He was hard man. Without sight he moved about with the help of cane. The tapping of his cane would herald his arrival. Some thought his blindness was but an act. Everywhere he went he would put on a show. Invariably someone would lose their job. He wore thick dark glasses and usually would be looking at the sky. Being blind or pretending to be, he seems to be able to see things which those with sight could not. Today assembly was cancelled and the students prepared to make their way back to their classes. The teacher too appeared despondent. The words of his wife continually resounded in his mind: "instead of the everyday beatings why not open a butchers shop? Not only would your earnings increase but the ever-present fear of Shahji hanging over your head would also end." But how could he forsake this virtuous family profession? How many children had he taught to walk on the path of righteousness? Indeed it is few of God's elect, suited for this vocation. Our class was especially done up to receive Shahji. This had taken many days. The students were given special instructions. Billoo was either not to attend school or as was his habit, not ask any silly questions.

The school bell rang and peon ran in to inform the teacher that Shahji had arrived. An elaborate high tea was arranged for Shahji. The rationale was to keep him so occupied with food that this would preclude his visiting the classes. But Shahji was blind to all this and today he even appeared to be deaf. Ignoring all his hosts, with the tap tap of his cane made straight for our class. At this the heart, of all those engaged in looking after him, skipped a beat. Shahji in his disdain even declined to accept a glass of water.

For the visit the crest of our teacher's turban was further raised. Two students, who were assigned to sit next to Billoo, became vigilant. The rest of the students had been instructed not to look up from their books. The fear was that Shahji's eyes may catch something. The tapping his cane came from a long-way off. At times, its sound would rise and then fade away. Time it seems was suspended. Each tap of the cane was like a ton of weight, squeezing the breath, out of everyone. His stick crossed the class's threshold before Shahji. The teacher, in his nervousness, forgot to greet Shahji. He moved straight onto his scholarly lecture. A lecture with which, each and every student, was so familiar, as to have memorized it.

Shahji was looking up at the sky and perhaps smiling. The teacher with all the eloquence at his disposal was lecturing on Newton's laws. The students, meanwhile, sat with the heads bowed. What else were they to do? Times had stopped ticking. Suddenly there was movement in Shahji 's cane. Hearing its loud tapping, the teacher fell silent. He waited for Shahji to speak. Shahji again slammed his cane on

the floor and in terrible anger enquired: “are there any children alive here?” “The prevailing silence is of the graveyard.” “Why does no one speak?” “Is this a sermon at a mosque or Newton’s laws being taught?” The colour drained from the teachers face and he forgot that he had coached some student earlier in what questions to ask, in case of such an eventuality. A student, without waiting for a signal from the teachers, with great respect, put across three questions in lucid Urdu. Even before his questions ended another student, haltingly and slowly, properly structured, started the answers. At this Shahji’s anger knew no bounds. He shouted out; “I have earlier seen students cheating in exams for answers, but this is the first time I have seen them cheating on questions.” “All these questions are in given in the textbook; does no one have their own questions?” “Understanding Newton’s laws, is not that easy, why has it suddenly become so simple?” “What manner of classroom is this where there is only silence and deference, but no questions?”

The best laid plans of the teacher were, by now, in tatters. Images of an alternate career as a butcher were flooding his mind. The students had turned to stone. A peon, who was bringing a glass of water for Shahji, ran away without delivering the water, with his tail between his legs. It seemed it was the end of days, where everyone’s heartbeat was loud enough to drown out the tapping of Shahji’s cane. At that moment, a trembling voice from the back of the classroom shattered the silence. Billoo had something to say, something to ask. The two students sitting next to him were trying to restrain him, to silence him. Shahji turned in the direction of where the sounds were coming from. At this the students trying to restrain Billoo, stopped in fear and Billo was free. He slowly cam towards Shahji and grabbing his cane started to tug at it. Shahji was startled by this sudden attack. None had ever dared take this kind of liberty with him. Before he could say something, Billoo in his convoluted manner, said that he was trying to pull at his stick from where he was sitting, according to Newton’s law gravitation, but nothing was happening. So he had to make his way to the front of the class, to physically pull at the stick. He enquired: “where are the hands of the sun and earth that they, according to law of gravitation, are able to pull smaller things to them. Shahji was flabbergasted. He bent down to take Billoo’s hand and his thick dark glasses fell to the floor. Everyone present was able to look into his sightless eyes. He pulled at Billoo and gathered him in an embrace. A single tear ran from his sightless eyes to his beard, to be absorbed in it.

The teacher heaved a sigh of relief – his job was safe!

# Chapter 2

# Educational Design

As in education, there are socio-economic disparities within health. Any measures towards improving the state of health would involve an assessment of the existing situation. A geographical, gender, age, socio-economic distribution and related factors would need to be considered; a complete diagnostics of the situation required. Taking an exaggerated example: suppose a US company decided to send 'Ensure' for everyone, would drinking this would improve the nation's health?

*Comment – We have to understand what the underlying issues are.*

A diagnostic analysis for Pakistan would entail looking at each province, each city, bifurcated on an urban and rural basis. We have look at each mountain, valley and remote areas like 'katcha' in Sindh. By the way it is called 'katcha', since during the monsoon the river overflow and make the soil so waterlogged, that there is no possibility of any structure being built upon it. The land does not belong to any individual rather it belongs to the government. For the poor people there is no choice but to inhabit this land. More than five million people currently dwell there. They live in makeshift shelters, huts, which can be moved to higher ground when the river is in flood, much like in Vietnam. Naturally, no schools can be built.

Turning to education a similar diagnostic exercise is required before commencing on any project, even if a pilot-project. You will have to arrive at a breakdown of students, classes, and other variables –i.e. what is their existing status. This is the beginning point that leads us to where the problem lies. Another factor which we have to consider is what existing technologies are present in that particular environment. For instance you cannot consider installing a satellite connection to acquire high speed intent, of it is not available. This is equally valid in our example of health. Once diagnostics are in place, we carry out the actual intervention. After a short time period of the intervention, a few months, we need to go back to our baseline diagnostic; to see what changes have taken place. Unless this feedback loop is in place, there is little that we can achieve. Most educational initiatives which are in place these days, including the 'reach' programme.

*Comment – Internal exchange on signing a MoU with 'reach'. United we reach, where? There head-offices are located on the most expensive real-estate in Lahore. They have recently completed curriculum for class one, which is technology based and also include their own printed books (software and hardware). They had 40 people assigned to the task. This takes a lot of financial resources, which they has access to.*

After an intervention, taking an example from health, giving medicine, you need to check to see what effect it has on the patient. The point is not the provision of medicine alone, but arriving at a cure. Two other things which I subscribe to religiously include: the futility of spending money on constructing buildings. Once you start in this direction it is a path of complete wastage.

Comment – This model has already been attempted and failed miserably. The many abandoned premises, now being used for dairy animals, bear testimony to this failure.

The other input not required is teachers. Intuitively a surprising thing: but in context of our intervention, a waste of financial resources. Teachers in our cases would be supplemented by software and their only training would be in mastering this software. What options does this leave us with? Technology is already present, content, naturally will have to be designed. Initially, we will aim for a scalable pilot project which is replicable at a national level. Keeping all our constraints in mind, the idea of school van, manned by three people would make sense. These resources would not be technically qualified but would have to be conversant in computers and their salaries would range from Rs.20,000 to Rs.30,000. The van would contain around 100 tablets. These would be maintained by the employees and kept fully charged, which can be done while driving. The project cost, including a van (Rs. 2 million) and tablets (Rs.10,000*100), would be around Rs. 3 million. In addition we have to consider the software and content design. We had done this earlier, with the objective of sustainability. For example a physics course would be the same for class $9^{th}$ to $12^{th}$. The underlying reason is not to achieve uniformity, but rather providing the requite foundation upon which further knowledge is built. When a student logs into the software, the software assesses the student knowledge and where he needs to be. The same span would apply to $6^{th}$ to $8^{th}$ standards. For the lower grades we integrate the varying disciplines of science, language and social studies. The point is that when considering technology you should not be using a conventional educational perspective. Consequently, a physics course addressing $9^{th}$ to $12^{th}$ standards would cost approximately Rs. 10 million.

*Comment - An internal discussion on value of a one kanal plot in Defense: a figure that ranges into millions. Underlying point being that the software cost is within range of middle-class person.*

A unique feature of the software is that it has the option of conversing in multiple regional languages of Pakistan. Obscure terms like “Zooazafay Aqal” and “Adheazam” part of the traditional Urdu curriculum will not be utilized. The underlying content would naturally be in English and consequently can be utilized all over Pakistan. Similarly, other course in chemistry, mathematics, etc., would be required. For English, the question is should we attempt to replicate a software, which has various version available in the West, i.e. MIT’s software, Transparent Language Systems? A brilliant resource for English learning, it is aimed at the various Chinese students who come to the university. These Chinese students, despite being brilliant in mathematics and having the highest Scholastic Aptitude Test (SAT), lack basic English language skills. The software focuses on four skills; reading, writing, speaking and listening. The capability of the program can be gauged by the fact that most students are able to acquire these skills in two semesters. Upon thinking of acquiring the system, there was slight problem. The software only runs utilizing the internet. When purchasing the system we applied for a license for 50,000 students, for which a rate of Rs.10 per month per student was quoted. Naturally, this was financially prohibitive for us. For 500,000 students rate quoted was Rs.0.1. Again this was too much for us; but bear in mind that they spent Rs. 50 million in developing it.

When you log in to the software, for which you are provided an account, your previous homework with all the mistakes highlighted is available and software also assesses your progress.

*Comment – Analysis of the cost of software: The fees they are charge are quite large since they have no recurring capital expenditure; whereas if you tried to scale a university it would not make sense. There would be some incremental costs in terms of upgrades, much like with Apple and other technology companies. Incident of wife travelling when her phone became dysfunctional since it was upgrading. The same thing happens with my ibooks, every time there is a new version.*

Our system would continually improve in light of the feedback we receive. Getting back to our project the van would visit each school, for a maximum of upto three hours. The van would be assigned a particular geographical area. It would operate till midnight and would also provide coverage to students who are not enrolled in schools. In terms of the needs of a premises/room for teaching this would be provided by the community, which would also instill a sense of ownership. At the premises students would sit down and log into their accounts. An update of their previous work, performance, assessment and new lesson, based on their prior work, would be provided. This allows the flexibility for each child to study at their own pace: a full-time student in comparison to a student who also has to work. Or for that matter a intellectual differences. There can be gender segregation, in terms of classes, if required.

*Comment – How many subjects would the van handle in its three hour stay at particular school/premises? For grades 6$^{th}$ to 8$^{th}$ the entire curriculum would be integrated and cover all subjects, as for earlier classes. The new 'Beacon House System', Swiss based, in being currently taught at their branch in defense. It is rather expensive with fees of Rs.50,000. What they are being taught as example entails; a square is presented to the student and in comparison another shape – a diamond. My granddaughter, who is very intelligent, asked me, that when she turned the other shape it also appeared as a square. "What direction should I look at it from?" In similar tests here 90% could not distinguish the shapes between a 90 degree angle square and one that was not. It is invariably, unconsciously or consciously, that we teach most of our students. Comparisons of rectangles!*

*Using books from Oxford we tested student in the Allied school system, with whom we have close collaboration, the question put to them was: what is gravity? Most answered; "that it was downward force exerted by the earth." Thinking about where they had derived this it was replicated exactly from the textbooks. It was illustrated through an animation made by the printers – an arrow which continually bobs-up and down. This is a complete misuse of technology. Gravity is not downwards or upwards, rather it exists between two objects. Upon enquiry whether there is gravity on the moon, the answer was an unequivocal no.*

Having complete diagnostics we now turn towards learning pedagogy. Like the earlier discussed MIT's English learning software (TLO?) no exam per se are given; the design comprises of a continual examination. Much like a child learning to walk, there is no lesson, demonstration, exams or assigning of a grade. It is a continual process in where he is learning and falling at the same time. The first module will be relatively simple and provide us a conceptual understanding, in terms of an integrated curriculum, where each student stands. We had earlier asked the 'reach' progamme, how they gathered feedback. They had devised a system where all feedback would come through their appointed person. This is not at all reliable. It should be completely transparent. In our case the van driver would upload all feedback, directly from the tablets, to the control room (central processing unit) via the internet.

Conversely new lessons would be downloaded to the tablets. Our quizzes will all be automated and statistical analysis of these carried out. The automated quiz format would be multiple choice; the overall design intelligent enough to capture how much time an individual student took to answer the question, once the choices were presented to him. Also if went back to correct his answer. These quizzes form the basis of creating an academic history and habits of each child. Turning to a example of a GRE test, conducted in Saudi Arabia, the exam was cancelled and the exam center closed. Through technology, the computer analyzing the results could tell in ten minutes that plagiarism took place there and made the decision. How did it come to this conclusion? The response time of the students was the giveaway; such a fast response was not humanly possible.

Our technological people too have all these tools. A teacher called me on Saturday night to say there was issue with one of the questions in her multiple choice paper. She was not sure but suspected something amiss. She also pointed out some students who might be responsible. Based on this I sent an email to these students to come and meet with me on Monday. Relying upon their guilt, upon meeting them, I told them that I knew what they had done. Our research director meanwhile figured out in ten minutes that the paper was solved by someone sitting outside the classroom, while the actual student was missing. On Sunday, the suspect students emailed me, and enquired again as to what my query was. By this time I knew what had happened. I told them that it would be better-off if they told me the truth and if not I would show them no mercy. All of them confessed; an enquiry was conducted and no time wasted. All through the power of technology, available to us but little utilized.

Comment – A demonstration of automated quiz software. An assessment based upon student progression prior to midterm allows for the appropriate intervention. In totality we conduct 12 to 16 online quizzes. Prior to the midterm we usually complete eight quizzes. Based on these, a week prior to the midterms, we differentiate the students based on their past performance. This allows us to understand where the students are conceptually weak. This allows for an effective intervention. They are also given a projected grade for their midterms, very conservative, if unable to clarify their underlying deficiencies. So far, a correlation between midterm results and prior intervention, have led to improved grades for all students. This should be applied across all schools. Speaking to a director of Beacon House recently, they have adopted a new system based on centralized exams. The rationale for this was that earlier most students in the quizzes managed to secure 100% marks. Most teachers ensured these results to secure their jobs. While in actuality the entire things should have been designed the other way around. Teachers should be pushed to design quizzes which can identify student weaknesses, in order to rectify them. Sweeping these student shortcomings under the rug is not a solution.

Comment - For the automated quizzes we have the following parameter; student registration number, section and number of quizzes. A consolidated percentage score for the quizzes is also maintained. This allows for a consolidated graphical picture to be developed, i.e. what number were secured by section x in quiz x. A progression for can be chartered from individual quizzes. Taking one example the decline in percentage is quiet apparent. In this quiz a concept was provided with which the students were not conversant.

*Comment AI – Interjected that writing a paragraph in English, without rote learning, is nearly impossible in our case. Despite three language courses most students have difficulties with the language. To assess the utility of these courses we carried out a detailed computer analysis and the results were shocking. Here we look at their progression through these courses. As they advance basic grammar mistakes, like verbs, pronouns, etc., are becoming more pronounced. What the results are saying, counter-intuitively, that it would probably have better not to offer these courses, on which we spend millions of rupees. Is the course or its content flawed? It is more a function of the ability of the students to take advantage of the course. This could be immediately discerned from software like TLO, which also tells us that their performance in earlier courses was much better.* ***The underlying point here is not the quality of education being imparted rather its quantification. Diagnostics is the key. Taking an example from health, the temperature of patient is the critical indicator for any treatment/intervention. In this case a matter of life and death.***

Turning to trends, a majority dictates a trend. In a particular section this is captured graphically, by the red marks. Here a majority is shown which comprises of students who have traditionally been promoted, from earlier levels. The graph also highlights minority students who have either failed or not taken the course. Comparing the data for the two we can see that the trend is entirely driven by the majority and minority has little effect. For our analysis, this tells us that, this is group we have to focus on, in terms of conceptual clearance, for us to be able to maintain the trend. Other analysis of data was also carried out. Those achieving maximum marks were compared to those achieving minimum marks. In the first quiz only one student had achieved 71% marks while 13 had 0%. In the second quiz one had 100% marks and 14 0%. We looked at the 0%, were they absent? Since currently the attendance module is not inbuilt in software, we had to rely on feedback. It was discovered that these students had not attempted the exam, i.e. did not turn-up. Turning to the next minimum value there is one is the first and four in the second quiz at 25%. Other deviations are between the remainder of the grading scale. Another analysis which we carried involves three figures; 100%, 50% and less than 50%, it also informs you of value greater and lesser than 50% and equal to 50%. We have plotted these values for different classes/sections. This allows you garner a composite picture of a class. For example in quiz one all the class has scored below 50%. These graphical representations and other analysis are also available. What we plan to do it to provide a various dashboard of relevant analysis customized for a particular audience; students, teachers, heads of department and deans. Naturally, based on the utility we can move all the way up to the proctor level, to capture university level academic performance. Apart from monitoring, the dashboard all provides all current and historical data, at all levels for: corrective actions; handling complaints; feedback; and other research oriented administrative actions. Currently, no other university has a similar system or is using one. The end goal is to create university-wide connectivity to a live database.

Comment – We had just finished an activity for Nestle yesterday. The company had to evaluate 5,000 management trainees before hiring. The induction utilized an online platform which is similar to SAT in nature. Their main requirement was to understand how much time each student spent on a certain question. Ultimately four candidates were shortlisted based on a mix of time-spent and marks. This was an illustrative example of the utility of such systems in the real world, beyond the university. What if we

can provide all this data when placing our students for jobs? The current Higher Education Commission's (HEC) evaluation model is outmoded and they to come to an evaluation system similar to what we have. Our system is already in place and it allows for me understand, before it happens, which section complains will come from and what issues I will have to deal with. Additionally, we admit around six hundred students every year and when conducting an evaluation, there are no chances of any teacher bias or discrimination. The automated quiz software also generates it own questions from a question bank, developed at the beginning of the teaching period by all teachers, and at time of the quiz they are not aware of what questions that will be generated.

Comment – Also acts a feedback mechanism and a comparative snapshot for all similar classes. Another utility is that it acts as a quality check mechanism, i.e. if most students were in the upper 20 percentile; perhaps the quiz was too easy.

Marking is also carried out immediately by the computer. Based on this feedback is provided to students, but not in the form of marks but areas where they lag. Let us now look at the first three weeks of averaged out performance in the course on 'electronics'. In the first two weeks the situation was rather dismal. The teacher was given a warning based upon these results. As soon as new teacher was inducted in the third week, the results improved dramatically. These random swings were a function of traditional teacher thinking, a fault in our selection, that the students were incapable of learning. So apart from effective monitoring it allows for immediate remedial action. Looking at another course on 'learning', we can see how uniform the results are.

*Comment AI– Teachers and parents are the biggest barriers to learning. Currently, there is litigation pending against me for degrading students. This is entirely false since if I did degrade anyone it would be the parents.*

*Comment – Standard Chartered initiated a centralized internee system for evaluation and in short-listing of candidates from numerous applicants for particular job openings; based upon responses, time taken and level of understanding. Another system categorizes according to adapters and innovators. Infact this type of mechanism is the need of the hour, unfortunately the institutions providing the solutions are doing exactly the opposite.*

We have now a dedicated in-house quality assurance function and a significant number of teachers instead of teaching are focusing on this. We feel at times that this is more important than teaching.

Finally moving to structure of the project, it would be in the form of a pilot project, somewhere in Lahore. It will have to be in the suburbs, to demonstrate outreach, otherwise we could do so in any existing school, and the results would be the same. A van will be used as discussed earlier and the project will have to be scalable. Perhaps initially we will also have to absorb the cost of the rooms, since community ownership will take time to be realized. The school van is for outreach and for those not having access to schools; we are not claiming it as a replacement for a school. The van will target these areas twice a week. There are two estimates regarding children out of school in Pakistan; 25 million and 60 million. Taking the conservative estimate of 25 million, our aim for the pilot project should be

demonstrate that they can be inducted in school overnight. If I try to replicate this within the existing brick and mortar paradigm, it would be impossible in terms of financial resources, qualified teachers, etc. Based on this we can design a feasible proposal. We currently have a graphic design department, storytelling and psychological resources. All these would be adding their input to the proposal, especially at its brainstorming stage. We had earlier tired another approach, at another university, where you assign an individual with the task and then seek input from other experts. Technology, pedagogy and learning style have be considered and incorporated at the inception stage. In pedagogical terms this is known as a wicked problem: a problem where there are many variables. Content knowledge is critical but does solely dictate teaching capacity. Next is pedagogy, specific to the content developed. The final link is technology which follows the other two. All three disciplines need to work together from the project start. Another consideration for the project would be that it is profitable, to ensure sustainability. So the project should be sustainable, replicable and extendable to all educationally deprived targeted areas.

Comment- Sugata Mitra's 'Hole in the Wall', an inspiring talk, needs to be seen. Here the focus is on teachers training, i.e. computer usage, which contains such mundane topics as what is a CPU. The innate curiosity present in children needs to be encouraged and not repressed. An incident comes to mind, in my last office, there was an office-boy, serving tea, who upon locating a vacant computer would sit down and start using it. He was around ten at that time. One day he was using word file and inserting word art, when an accountant scolded him for this. I was passing by and enquired as to what the matter was. Upon learning his predicament I told him that he could sit with us during the night shift and use the computer. He went onto complete his FSc., joined PUICT completed his bachelors and now teaching in their IT lab.

Comment AI – We had assumed throughout the discussion that TOL system would be used for learning English, but in actuality any language can be learned. Another thing which the system does, say when you log in from Pakistan, that if your language skills are very weak, it asks for which language would you prefer to understand the instructions, i.e. Urdu and other regional languages. We are now launching a course in learning the German language. The financial cost makes sense, i.e. Rs.0.1 per student. The only critical thing is the availability of the internet. A minor drawback entails the fact that the programme's cultural context is American, but that can easily be overcome. Accessibility is another important feature; the software can be easily accessed through a cell phone – browser based and device-independent.

Observation – On a psychologically upset girl, apparently beaten by her father, we have tweaked our system through gathering information about a student's domestic situation (questioner) at their induction into the system: is there a need for any psychological help?

# Chapter 3
## Dear Asif

It is a long time - we have no news about each other? Ramadan mubarak and I am sure your wife will be fasting - and if yes then she will be in a terrible mood - but I am also confident that you have an infinite patience?

My youngest son got married two years back - My sister in laws were coming from UK - to stay with us? The eldest sister in law is just horrible and always expected that our personal bed room will be vacated for her comfort? Whenever she came I had a fight with my wife? But this time I compromised so easily - my wife hugged me for my sincere efforts to please her devilish sister? She did not smell any thing foul when I requested her to shift all my books - about four almirahs - to my mother's house next door - not exactly next door - but very near? This was in fact more convenient for her because she always wanted to get rid of those useless books? Perhaps she thought - Ashraf may come back but not his books? But since that lovely winter - I am with my mother? Our Married life has improved dramatically?

So how are you? Perhaps you do not have the golden opportunity of shifting to your mother's house? That is called fate? What else do you expect from the God almighty - But then I am a big sinner than you are? Perhaps God rewards those who are very pious or great sinners - the ones in between go to hell?

Believe me - if given a choice - I shall join you in hell? We shall miss the company of Dr. Khan, Malik Masood, and Ali Haider? Zafar shall be certainly with us?
Lots of love and Aid Mubarak
ashraf iqbal

Dear Asif,

Ramzan Mubarik! It has been a long time since we were in touch and I had news about you. Since it is Ramzan your wife must be fasting and perhaps in a bad mood. I know that does not really matter to you due to your infinite patience.

In other developments my youngest son got married two years ago and more importantly my sister in-law came to stay with from England. She is quite a demanding woman and expects us to vacate our bedroom for her, every-time she is here, usually leading an argument between myself and the wife. This time around I offered no resistance. My wife was immensely pleased at my efforts being so accommodating towards her sister. She did not suspect anything suspicious at my innocent request to move all my books, about four almirahs, along with me to my mother's house - who lives a couple of houses down. To be honest she was very pleased at this, since she has always hated my books, which she considers useless. She was expecting that I would return without my books once her sister had left. Yet, since that lovely winter, I am living at mother's house and our married life has improved dramatically!

Anyway, how are things with you? Perhaps you too have had an opportunity to shift to your mother's house? I believe these are all matters of fate, but what else is to be expected from God almighty? Being a greater sinner has its perks! It seems that God rewards either the very pious or the serious sinners – the ones in between go to hell. Given a choice I would have no hesitation in joining you in hell. Naturally, we shall miss the company of Dr. Khan, Malik Masood and Ali Haider. Zafar shall certainly be with us!

Lots of love & eid mubarik

Ashraf

# Chapter 4
# Music and Mathematics!

I narrate a story of a friend. His name I will not disclose but what he was known by, in a little while. He must have been the same age as me. He was from a well to do family and had little financial concerns, even after retirement. As a significant property owner he led the carefree lifestyle of a true gentleman. I do not exactly remember how our friendship started. Despite not needing to work for a living, he did so. Yet, he regretted the fact that his work was not his passion. As Ghalib stated:

*A thousand desire on each life ventured*

*Many realized yet insufficient remained*

My friend planned to follow his heart after retirement and do things which he could not earlier. On his last day at work his colleagues organized a farewell. One of the presents given was a prayer mat, the assumption being now he would now have more time for matters more spiritual. Also a copy of 'Bhaishti Zavaar', was also given: perhaps as a prank. Traditionally, this book was given to all brides by their family. In terms of the passions he wanted to pursue, he told me, music and mathematics were foremost. We will go on to discuss music later but first to mathematics and how he went about it.

He invited a mathematician to come to his house as a tutor. For our purposes let us call him "Billoo'. Billoo was an M.A. in mathematics. He would come to the house everyday and teach, discuss and explain mathematics. Now Billoo was relatively young and had just started on his career. This tutoring assignment brought him much needed money or at least that is what one assumes, since my friend was rather tight in matters financial. Naturally, this created a rather unequal relationship. Billoo could not really dominate or dictate to his student. This led to an interesting relationship, devoid of any coercion, where no question to the student's learning capability, in this particular subject, was asked. Teaching then for Billoo became quite the chore, as with any mathematics teacher who cannot wield his authority effectively over a student.

One day I was with my friend when Billoo visited. My friend told me to stay, since he did not skip his classes and watch. He told me that he would demonstrate a different methodology of learning. He told his tutor not to use the book but rather a discussion on mathematics would ensue. At this Billo commented, "that a book was essential, since first we take a chapter, study it and then tackle the associated problems. This is how we study mathematics." My friend replied "that let us do mathematics today rather than studying it." Billoo was rather confused and enquired what chapter's mathematics will we do. My friend said, "mathematics is mathematics; the chapters are just our constructs." Some paper and pencil were called for. My friend wrote down sine of $\pi$, which I too saw. Upon seeing this Billoo enquired from his student, "what the value of $\pi$ was". After which he would be able to teach him what sine of $\pi$ was." My friend said "we are not calculating the value of $\pi$. Instead of observing sine at one value of $\pi$ we want to observe the entire sine function and admire its beauty." This appeared strange to Billoo, "what are observing a cat," he enquired. My friend turned to me and enquired what picture came to my mind when he wrote down sine of $\pi$. Being an electrical engineer I

had earlier observed the function in my laboratory, during my first and second years at college, when we were experimenting with voltage. The sine waves could be seen plotted on an oscilloscope. He remarked that this was good, and then he enquired about its peak value, then period (2π). Having satisfied himself, he acknowledged that I appeared to know mathematics. I told him there was little mathematics taught in an engineering course and no majors offered. Agreeing, he said that "at least I was able to paint a picture in my mind and then went to enquire what would Δ π appear as." When he wrote this down Billoo immediately interjected that the integration sign was missing. He told him to wait and let him understand what sine π and Δ π was. Billoo said that they had no meaning without integration. He told a visibly agitated Billloo to wait and that he was not interested in integration. Turning to me he said that now I should make a mental picture of Δ π and divide the function by sine π. My mind turned to my college days and when we would calculate voltage across a capacitor. If the current is sine π the voltage would be sine π into Δ π. The function would appear in the form of rectangle vertical strip with sine π as its height and Δ π as its base. At this Billoo queried, "Where has this rectangle come from?"

Before we go any further I should let you know what my friend was referred to and why. When Billoo had started coming to his house to teach, they would sit in his library. On seeing some of his literature collection, especially Dostoevsky's Brothers Karamazov and Idiot, who was my friend's favorite author, Billoo took the Idiot home to read. Returning the book a few days later, he told my friend that he resembled the story's character quite remarkably. That was the day that my friend acquired a new title. Anyway, getting back to the story my friend added the sign of integration along with the functions. Billoo immediately stated that this is what he had been trying to say earlier, without integration it held no meaning. He also offered to work out the answer. My friend replied that he did not want the answer. At which Billoo retorted "why he had written it down then." Again he turned to me and asked for me to envision this in my mind. Again I knew that as current was supplied and voltage or charge increased, he was referring to an area under a curve. Billoo interjected "that there were no limits assigned." If these provided he could immediately work out the answer. My friend again told him that this is not what we are trying to accomplish. "What are we doing then." was Billoo's retort, "this is not how we go about mathematics." You have to start with a particular problem which has to be solved based upon certain formulas or a theorem which has to be proved. This is what mathematics is about. My friend told him to wait. Assigning 0 to π as the limits to the functions he asked me what would happen to my rectangle. I told him that it would be equivalent to the upper limit and since positive, it would define an area of half-a-cycle and would comprise the entire area of the rectangle. Continuing his enquiry he asked me that if he multiplies sin π with r, would the earlier integrative function too would be multiplied by r? Billo again interjected and told him that what was the purpose of the without figuring out the answer. My friend told him that he did not want the answer and just wanted to compare the two. If we integrate r sine π and we integrate with Δ π within limits of 0 to π, does the entire area also get multiplied by r? To which Billloo replied yes, the r comes out. My friend asked him how this r comes out. It seems to be very mysterious appearing and then disappearing. He directed the same query to me. I told him that of the rectangles formed earlier, all their area increases by r. He asked how I knew this. I told him that when you are multiply the peaks with r, all the rectangles too would be multiplied by r. Billoo was incredulous and said that this did not make any sense.

A little later on my friend jotted down another sine function in which he started stretching the peak value towards r, illustrating that the area too is multiplied by which was earlier taken out. He went on and said that the function's peak value would remain as 1, but period changed to r π from π. What would be new area and would it still be multiplied by r; i.e. earlier we had increased the peak and now the period. Billoo intervened again and said he would calculate the answer. My friend told him that he was not looking for the answer rather just doing a comparison. At this Billloo said all this is meaningless without solving the problem and he did not understand this type of mathematics. Despite being completely disgusted he thought that this was a relatively well paying job and he did not want to jeopardize it. So he turned to me, instead of his student, and said "that if we stretch the verticals strips further, new vertical strips would be added how many we do not know. Now what would you do?" To this I replied that the earlier function of sine π, of which the period was half π and divided into vertical strips, now we divide into horizontal strips. He said what difference would this make. I told him that if we now stretch half period to r, each strips area would be multiplied by r. To which he said that here too r would come out if we integrate: an assumption with which I agreed. By now it was time for Billoo to leave and he said his farewells to us. By his face one could tell that he was still very agitated and thoroughly dismissive of this methodology of teaching mathematics.

# Chapter 5
# My Story

I am sure you are all familiar with our earlier series of programs, entitled 'Strife'. Today we begin a new series, in which we will narrate to you stories, called 'My Story'. As you might have assumed from the title, these stories are not about me. Rather they are observations of life, which you may too have come across. These are then your stories too. All I have done is collate my recollections, especially for those who due to their age may not have experienced as much as I have. The entire purpose of these programmes is focused on improving the classroom environment: how to bring back the spark of interest in the student's eyes. So that they again start enjoying themselves, striving to acquire new knowledge, formulate new ideas and innovate: a new beginning in which they completely immerse themselves in the classroom experience at the expense of the world. In our classroom despite being granted the permission to use their mobiles, facebook, etc., the students are so immersed in learning and discussion, that they have no time for any distractions.

With this background we start with our story, for the first programme in the series, with Ashraf Iqbal: 'My Story' at FM 92.6 from the World of UCP. My mother's uncle, Dr. Mohammad Waheed Mirza, did his PhD from the London University. His work was on Hazrat Amir Khusaru, with his thesis later published as books, both in English and Urdu. The Urdu translation is currently available in bookstores. In those days, 1920, it usually took a few month to travel from then undivided India to England. He was the first in our family to get his doctorate. A few years later my mother's maternal uncle, Dr. Abid Ahmed Ali, went on to acquire his doctorate from Oxford in Arabic, before returning home. He too traveled by ship. On its own, this may not sound very strange, but when you consider that these are people I have met and talked to in my lifetime, who needed to travel by sea for their studies. In those days they too must have studied in a classroom setting. How were these classrooms then? I am quite sure they were exactly as they are now.

These days when considering travelling to Europe or the States, we cannot even imagine going by ship. During the three to four year period my uncles were in England they never called home. Telephones in those days were rare in India, if at all available and certainly out of the reach of an average person. Moving forward in time from the 1920s, my uncle, Dr. Mohammad Arsalan, went for his PhD to the States in 1961-62 to the University of Wisconsin. He traveled by air, jet technology was present. While there for seven years he only called twice. Growing-up in Multan, in the late 50s and early 60s, there was a phone in our house. He called only twice, not because he did not want to call, but because it was a nightmare to call from the States to Pakistan. Often he would sit in his office for around eight hours waiting for the call to get through. To complete the call there were many operators who acted as intermediaries. The first time he called was because his sister, Sara Rasheed, an English language professor at the Lahore College for Women, passed away. A time I remember very vividly. The other time he called was slightly before returning, to inform us of having successfully acquired his degree. A major difference between education in the States and England, especially at the doctorate level, is the greater coursework required in the States. This would have implied, my uncle, having to sit through

many courses over many semesters in a classroom. Yet, the classroom was the same one my granduncles had to sit through, during the 1920s.

Moving further ahead in time. I started as a lecturer in 1975, at the West Pakistan University of Engineering and Technology, as it was known then. My house was located within the premises of the university. My eldest son, Mazin, was born in 1978. Being the first child he was the center of our attention and affection. His slightest illness would see us rushing him to the best doctors. In those days, Dr. Anwar, a child specialist, whose practice was in the Gulberg area, was consulted. It is a strange fact that these days he is also the doctor to my grandchildren, despite being rather advanced in years. Making an appointment with him remains the same to this day. You have to phone between 8:00 am to 9:00 am, where his assistant schedules your appointment. If the number of patients exceeds the available slots, your appointment is moved to the next day. Naturally, there is an exception for emergencies. I narrate this since; living at the university we did not possess a phone, much like most of the professors there. Often I had to go to the university's manual telephone exchange, early in the morning, to request the operator to call the doctor's number. It was difficult to get his number since many people were calling at the same time. Our operator would do me a favour and get his friend in the Gulberg exchange to get me through directly. Upon getting the appointment we would take our son by rickshaw to doctor in the afternoon. Now you have some idea about the state of telecommunication technology: from being almost non-existent in the 1920s to being quite problematic in the late 1960s and early 1970s. Later despite improvements, it was not very widespread.

I joined Lahore University of Management Sciences around 2000; we had a phone but could not make direct international calls. In 2003-4 I purchased my first mobile. Presently, as you are aware, almost the entire populace of Pakistan, whatever their occupation, possesses a mobile phone. Communication technologies have advanced dramatically. What has failed to progress is our classrooms. They remain as they were: the eyes of the students in them, devoid of the glint of learning. I remember when I first joined UET, it was around December 1969. The 'electrical engineering' department was located in old building. A couple of years ago, the university had purchased a computer, IBM 1130. In those days the computer would have cost US$30,000 to US$40,000. Apart from huge investment possession of a computer by our university was a source of great pride for us. We felt we had the latest in technology. When we started using the computer for one of our courses, we found out that to program it, we had to punch cards. Once these cards were punched by a card punching machine, they were handed over to the computer operator. He would invariably tell us that he had to wait for all the cards to be submitted before processing them. Once done the program would run and the results would be available the next day. This was very irritating! Having written the program with great interest and the excitement generated by the use of the computer, which by the way we could only look at, since it was partitioned-off by glass and there was no admittance, the wait was very frustrating. Retrieving the results the next day you would discover that, you had misplaced a comma (syntax error) due to which the program did not run (compilation error) and you had to resubmit the entire thing. One felt terribly annoyed at the wasted time and effort. It is akin to playing badminton with someone, after making a shot; you have to wait for four hours before it is returned. You would probably stop playing badminton. This is exactly what happened; I almost gave-up computing. Luckily, I went onto to do my PhD in electrical

engineering, which was entirely based upon computers and am currently the dean for 'information technology'. Despite this at the time I was very disheartened, especially by the fact that whatever I was doing its appreciation or feedback was not immediately forthcoming. This is a very fundamental principle of pedagogy: the time involved in providing a student feedback to this work. In those this did not happen in classrooms or with computers, who were not advanced enough to provide instant feedback.

Also, in those days the most fashionable car for the middle-class was a Volkswagen. My uncle who had returned with his PhD from the States was a proud owner of an immaculate second-hand car for around Rs.30,000. While driving with him one day he told me that even if he had a Rs.100,000, which was sufficient for Mercedes in those days, he would still by a Volkswagen. So in 1969 a car was worth Rs.30,000, while a computer cost US$30,000. These days you are aware of what a computer costs? Most university students now posses a personal computer, i.e. they have enough disposable incomes to afford the quite expensive tuitions fees of public and private universities in addition to computers. Volkswagen are almost gone, but a typical car costs around Rs.1,500,000 to Rs.2,000,000. Comparatively computer costs have gone down drastically. Similarly, communications have become available to all. Not only through mobiles, but through computers, connected to the internet. Everyone has access to programs like Wikipedia, where you can find out pretty much what you like. Imagine you can access Massachusetts Institute of Technology (MIT) lectures at home, or for that matter any university. What has not changed, are classroom and the dull eyes of students. How is this possible? From the early 20$^{th}$ century to the present, a period of almost 100 years, there has been so much change, yet the classroom remains the same. In appearance and design it remains the same. Looking in from a window into a typical classroom you see respectful students, listening in silence to the teachers. This does not necessarily imply that they are discovering some new knowledge or innovating, they are only listening. So the purpose o today's story was to make you think why the state of the classroom remains the same. It does not matter if the school is here or abroad; an expensive private school with exorbitant fees or a government school with nominal fees; there have been no changes. The teacher in his authoritarian role remains in command. Is there any learning taking place in these classrooms? With technology having progressed so much can we not bring drastic changes? With the cost of computers dropping so drastically one would have assumed there would be concurrent reduction in school fees. The classroom should have become more effective and exciting. What needs to be done to accomplish this? How do we educate all children in Pakistan; whatever their socio-economic status or location? Whether residing in the deserts of SIndh, or the remote hills of Balochistan, the majestic mountain peaks of KP, or the green plains of Punjab, in large urban centers or remote villages, quality education needs to be imparted to them. They need to be educated not solely for the purposes of individual learning but in creating an independent, free and progressive nation. We need to allow them think rationally, make innovations and to understand and contemplate current issues and problems. How is this possible? Through the journey of 'My Story' we will strive to discover this!

*I look forward to your continued feedback and comments!*

# Chapter 6
# My Story II

This is Ashraf Iqbal at FM 92.6 with the world of UCP. You are most probably familiar with this programme and today I welcome you to its second series, entitled 'My Story'. This is the second programme in the series and we take-up where we had last of last time. Before continuing, a small recap, which should also prove beneficial for those who missed the last programme. My story does not solely constitute of my story, it is also be your story or for the matter anyone's. What is of importance is the fact that what lesson we can learn from the story. The gist of my particular story was that my grandfather went aboard for his PhD during the 1920s. At that time he had to travel by ship. When my uncle went abroad for his PhD in 1961, he flew by plane. He returned by the same route in 1969 having completed his doctorate from the University of Wisconsin. During his rather long stay he only called home twice by telephone: once to condole upon the death of his sister and the other in celebration upon receiving his doctorate. Calling home in those days was a tedious and tremendously time consuming process. The world has now changed as you are quite aware. One thing has not changed and it is rather sad that it has not. It is something that needs to be changed. How do we do this? We need to encourage as many children, whether rich or poor, from urban centers of remote corners of the country: from the rural areas of Balochistan to the Katcha area in Sindh. Incidentally, are you aware that millions of people reside in this area of Sindh, which during the monsoon season becomes completely inundated with water, forcing the dweller to move their makeshift shelters to other areas. No buildings can be constructed on these lands or for that matter any schools. Land is cheap and the only viable option for the poor! For the children there, provision of not only education, but world-class education should be our primary obligation. So in the windswept deserts and marshes of Sindh or isolated hills of Balochistan, in the plains of Punjab or the majestic mountains of Khyber Pakhtunkhawa the onus is on us to impart quality education: a situation which needs to be addressed and one further exacerbated by distances, access and circumstances, where even construction of a building is a huge challenge. Yet, this does not imply that we cannot provide them education. Technology has evolved to a stage where this is now possible.

As I had narrated to you earlier that several members of my family completed their PhDs, including myself; during the time much changed but one this remained constant – **the classroom**. The instructors then and now might have changed in appearance but the environment remains the same; as it was a 100 or 150 years ago. The complaints too remain the same: the students do not come to class prepared; they do not want to study. Naturally, this implies that the results also stay static. Recently talking to Jalil Shaib, a friend and colleague, I was emphasizing the point that our students in terms of being able to c critically analyze subject matter, in relation to learning and understanding, are seriously deficient. The classroom environment historically and now is not conducive to learning. Why this is so, we leave for another day. In today's programme we develop this point further.

Before my uncle completed in PhD in 1969, his family who were with him, returned home a year earlier. I was very close to uncle, as he was to me. One reason was the premature demise of my father when I

was a year old. My uncle became like a father figure to me. Anyway, he sent a lovely gift with his family for me – a transistor set. I was overjoyed at the small set on which I could listen to the news or my favourite music. In those days in Multan, during the summers we used to sleep outside. Under the star filled skies and moonlit nights, I would spent long hours listening to my present. In those days this was a great luxury. Most of class-fellows did not even posses one for their houses. Today in Pakistan almost everyone possesses a mobile phone and if a mobile then a radio. How circumstances change? I remember distinctly that when I joined a university as a lecturer, in 1975, I was part of good group. Dr. Asif was professor, later a colleague. Ali Haider was with us as was Saddiq Hussain: all young lecturers at the University of Engineering and Technology (UET), full of passion and enthusiasm; idealists who wanted to change things and achieve something. In those days students would go on a fieldtrip to Peshawar from where they would visit Landi-Kotal. The KPK of those days was different from now. There was little lawlessness, violence or the Taliban. Landi-Kotal was in those days a thriving market for smuggled goods from Afghanistan. Students and often teachers would purchase things from there. On a particular trip Saddiq Hussain, gave money to a student and told him to purchase a radio for him but one with the added feature of a tape-recorder. In those days this was not an easy things and quite a status-symbol. Anyway, the student brought back for him a radio with a built in tape-recorder. Since all of us, at the university, could not afford one, we all started using his device. These days most mobiles contain a built-in tape-recorder. When I got married, I remember that my wife's sister was based in Kuwait. The wedding present she gave us was a Panasonic/national tape-recorder and transistor. In those days this was a big gift. At that time going back to Multan, to visit the family, I exhibited the gift with great pride. Excited, I cycled hurried to the cantonment bazaar in Multan and asked the tape-shop to record a song from an English movie for me: "to sir with love."

I do not know if you are familiar with the movie. In our time we saw it several times. One of our teachers, Malik Masood Anwar, also saw the movie a few times. It was a movie worth seeing. The movie also focuses on the classroom environment in a high-school in America. It portrays a teacher who temporarily joins a school until a better employment opportunity comes along: something quite common in our country. The movie then shows the terrible time the students give to the teacher. In the States there is no corporal punishment in schools making his job tougher. Initially, he is greatly disturbed and looks to quit but gradually he starts to understand the individual students and creates a bond with them. This bond turns to care and he starts to see that these students are capable of thinking, learning and understanding. He realizes that if he nurtures their abilities and guides them with love, kindness and patience they can do wonders. If you get a chance to see this movie please do so. The movie ends with the teachers and the students/classroom both being transformed. The bond developed with the teacher, made the students want to learn and excel and for the teacher to help them do so. This was a bond devoid of fear or reprisal and based on love and care: a mutual journey of discovery, wonder and learning.

It is a musical movie containing a few songs. The title track, naturally, is "to sir with love:" one of the most popular songs of that time. In the movie upon getting a better job offer and tendering his resignation, the class students who earlier given him such a hard time, gave him a huge farewell and collectively sung the song for him – "to sir with love." A song fondly remembered to this day. During

the farewell the atmosphere becomes so emotional that there are tears in the teacher's eyes. He could not believe that these same students, who were so mean to him earlier, could contain so much kindness and love. He goes back to this office and takes out his appointment letter from a more lucrative offer and tears it up: in the end deciding to remain teachers. You do not find this type of teachers every day! The majorities are not like this and training them to be so would have no utility!

So as I was saying earlier I had the song taped to play on my newly gifted weeding present. These days all of you have a mobile with a tape-recorder in which you can not only record, store and play backs hundreds of songs. After the wedding, having been blessed with beautiful children, by the Grace of God, my wife decided to purchase a camera to capture these moments. In those days, at the salary levels of a lecturer, affording even a simple camera was not easy. As I recall none of my colleagues owned a camera. On one occasion needing a camera to take pictures of my children, a friend Zafar Masood, who at that time was in Japan doing his MSc, later joining NEC, was home and I had to borrow his camera. My wife, whose relatively were mostly based in the Middle-East, thought of asking them to send us a small camera. This led to much chaos later on. There was much pressure on me as a common lecturer, in terms of affluence, since most of my in-laws were doing rather well based in the Middle-East. There was no comparison between our lifestyles. Infact there was indirect pressure on me to quit my teaching job. In any case the small camera eventually arrived, considered a great luxury in those days, and we were finally able to take pictures of our children. Interestingly another anecdote: can you guess when I purchased my first calculator? In those days there were no desktop or laptop computers only calculators. I remember sitting in the office of our head of department, for electrical engineering at the UET, Dr. Altaf Ali Qureshi, later vice-chancellor for Bahauddin Zakariya University, when a Casio dealer visited us. He displayed numerous calculators and asked him to encourage his faculty members to buy them, so that they could become more efficient. While I did not have a calculator I did have my slide-rule, which I had used since I was a student at the UET in the early 70s, calculators at that time were unknown. While slide-rules were useful for calculations they did not have any memory function. Anyway, the head of the department enquired of me if I was interested in purchasing a calculator. My response was that I am waiting for their price to go down further. Initially they were exorbitantly expensive but later prices had come down a little. He was amused by response. It was a little later that Zafar Massod, my friend in Japan, upon returning home the second time, brought me a lovely gift – a calculator. Not only was he a colleague he was my class-fellow in college and at UET. We both became lecturers at the same time. There was much that we shared over this time, both moments of happiness and sadness. For me his gift meant much. Things have now changed: all of you probably posses a mobile, which has built-in calculator, even though you probably did not purchase the mobile with the intention of purchasing a calculator. Your mobiles also include a camera: again not the main purpose for purchasing the mobile. There are many other features including a radio; technologies which are now possessed by a majority of Pakistanis. My driver has it along with the gardener and the lady who cleans the house. It is amazing how this transformation took place. Yet, the one thing which has not changed is the classroom.

As a lecturer at UET during the second half of the 70s, we had an IBM 1130 computer, considered a powerful machine at that time. I was never inclined towards it since it was not interactive: provided no

feedback, which is critical. During 1979-80, microcomputers had started appearing in markets, despite the fact that they were enormously expensive. The IBM personal computer had not made its appearance. It made its debut after 1983. At that time the faculty in our department collectively decided that if we pool our research funds we could purchase a microcomputer; freeing us from using the IBM 1130, which was tedious. You had to write the program then punch cards and feed to the machine. Your answer would arrive the next day and even if you made a small syntax mistake, i.e. a comma, you had to rewrite the entire program. It was much like doing your homework and then receiving it days later when you had entirely forgotten what mistakes you had committed – a basic psychological principle. Anyway, having gathered the money for a microcomputer, we did not know which one to purchase. So we decided to advertise for it. Having placed the ad in a newspaper we received quotation from three companies. One of the quotations was from Apple for a 2C machine, if I remember correctly. Their advertising methodology was that the machine was geared towards business use. The Apple of those days was not what it is today. It was a small company started by a couple of entrepreneurs in their garage. It development to the dizzy heights it commands today is an interesting story which we leave for another day. Seeing that it was positioned as a business machine, we thought, upon submission of the purchase order the audit department would raise objections to it. Please, remember in those days no university in Pakistan possessed a microcomputer; purchasing one and getting it approved was no easy matter, within the governmental bureaucracy. The price ranged in lakhs for an 8 bit machine.

The second quotation was from Commodore Computers, a British company. Their advertisement strategy was focused towards it gaming application and simulations such as car racing. Based on this we thought again there would be objections by the audit department and others due to its entertainment orientation. Just in passing Commodore was good company unfortunately it did not manage to survive. The third and final quotation was from RadioShack -Tandy Corporation, for a TRS-80 Model II machine. In comparison to either Apple or Commodore the company was relatively weak. There advertisers had come-up with no strategies and did not know how position their product: perhaps because the market for desktop computing was still in its infancy. The manufacturers were not even sure if their products would be acceptable to people, especially for homes. In those days they were not quite sure how to communicate its multiple uses and versatility, with which we are familiarity with today. In terms of marketing the exact placement and marketing niches were being defined. If this had remained the case and these computers had not sold in larger quantities, to reduce their prices, they would not be in common usage and we would not have access to them today. Back to Radio-Shack and not being sure of their marketing message they just tagged it as “just a computer.” We at the university decided to go for this safe option since no would object. This made us the proud owners of the first TRS-80 Model II computer in Pakistan, in our department at the UET. I remember that it a 8 bit, Z-80 architecture based, 64 kb memory machine which required a huge disk. In these times of gigabytes and terabytes the 64kb must appear outlandish to you but it was giant leap for us. Its memory was greater than the IBM 1130. There was no hard-disk with the machine and we had to order this separately. We found out that it was manufactured by a third party and upon its arrival did not function.

The first time I used the computer, I did not feel the same frustration or aversion that I earlier felt for the IBM machine. What especially distinguished this machine was the immediate feedback which was displayed on the screen and not available the next day. A situation much like playing badminton when you expect a return shot after you have completed your shot. With the IBM, since you only dealt with the punching machine, you never felt that you were using the computer. It was as if your return shot in badminton arrived the next day. This takes the fun entirely out of badminton as with computing. Using the machine was really enjoyable and for the first time I took great delight, passion and interest in programming. What made this change was the instant feedback that one received, its absence a persisting problem of our classrooms.

How long does it takes for homework to be marked, quizzes and tests to be graded? How long does it take for a response to child's query in a class? How long does it take him to realize and understand his mistakes? The answer is analogous to a game of badminton in which you wait for the return shot for days and possibly weeks. Our existing classrooms design is not conducive for learning, understanding and critical thinking and can never successfully impart these skills to a student. There is a great difference in receiving an immediate response compared to a much delayed one as with the computers. Technology has progressed immensely and now a computer is available in each household. I bought my first personal computer for home in 1988-89; it was 386 machine, with an Intel microprocessor. During my Fulbright scholarship to USC, LA, was the first real computer which I acquired. It was an unbranded machine which had a colour monitor and a hard-disk. These unbranded machines were quite common and cheaply available in Los Angeles, in those days. I even brought the machine back to Pakistan. As time passed the prices of computers fell to the levels that they became commonplace. With this popularity their marketing message is now much more versatile since they do not fear for the product's future growth or market-share. Their usage these days can be compared with pencil and paper. While all these changes take place our classroom stays fixated to its state, 150 years ago. We need to and should think about this. In this context we are implementing some changes at places including, instant feedback and interactive learning. This allows for a student and teachers to get immediate to feedback on what was being taught both qualitatively and quantitatively, i.e. what was understood, what was not and how many understood and those that did not. Through computers all this is now possible! More importantly it allows for us to understand why they have not learned and how they can learn. This can be achieved through game based learning and immersive experiences. We have already taken the first steps towards creating an exciting, interactive and immersive classroom at our university. We will discuss these and their implementation in context of the classroom of the future at UCP, FOIT in the following episodes.

We await your queries, comments and recommendations. You can reach me on my cell: (0300)8477359 or email at ai.ashrafiqbal@gmail.com. This is Ashraf Iqbal signing-off for "My Story," at FM 92.6, the world of UCP.

# Chapter 7
# Time Travel!

Perhaps I was sleeping, perhaps dreaming or was it reality? I do not recall correctly but a dream continually recurred. It had persisted for days. On my desk lie scattered numerous phones. Among these also the earlier model mobiles. I used these to try to talk to someone, as I had for days. Yet, in each dream something would go astray. Perhaps the phones were very ancient or very modern; perhaps they were not of this time, age or house or perhaps I did not belong to this time, age or house? On my writing table there is also a TIP phone. The ancient phone is black and majestic. This ancient black phone is the same that was at Pull Moauj Daraya, our home: a home where I had heard things of much happiness and of grief. The phone was there, I was trying to talk but there was continually a busy tone. I was trying to speak to her as I had for a long time. But of all these phones none proved useful. I needed to hear her voice; I needed the sound of her laughter; I needed her questions and answers; yet I could not be connected. Nothing was working and no mobile was helping.

The same dream, this terrifying dream, I have dreamed many times. Suddenly my eyes opened. I had vague impression that it was teatime. I would often, in my university office, take a nap after lunch. Often I would sleep on the floor. I would get up around four or slightly earlier and then it would be my teatime. The business of life and education would continue. But now the scores of phones, the thousand of phones, on my table were missing. Surprisingly, only a much broken set, held together with tape, or so I assumed, was lying there. Perhaps the tape was for holding together the phone or perhaps it was used for patching time? On seeing the phone I tried turning it on. Suddenly, the peals of her laughter, the sound of her bright laughter, her shining voice left me stunned. Confused and perplexed my life purpose realized. That I could talk to her, hear her laughter. That I could see the light dancing in her shining eyes, the sound of her voice. Never had I in life found such fulfillment. I had just started talking when there was knock on the door. The professor walked in. He was my student but I had always referred to him as professor. We had much in common. He would also provide the latest departmental gossip. His house was next to 'Data" Sahib's shrine. I used to tell him that when passing the shrine and invoking blessings, also convey my greetings.

He came in, took a seat and said to me. "Did you know today was Ahsan's last day:" Ahsan who used to prepare tea for us. His dues were cleared and he was dismissed at noon. Yet, he decided to stay for a while. He said he could not leave without giving me my tea. Another day, some more hours, it was all his consideration. But on this day he appeared trouble. His mobile phone was missing. There was a knock on the door and Ahsan came in bearing tea for the professor and me. On his face was an enigmatic smile. Perhaps the realization of his liberation apparent: from the confines of work, time and place. While placing the tea on table his eye fell upon the taped mobile: the recognition of his phone immediate. He told the professor that despite waiting for a few hours to give me tea, having found his phone, the wait was worth it. Without my permission he took the phone from the table, put it in his pocket and started walking towards the door. What could I do, all this happened suddenly. As he closed the door behind him, the realization of the moment in which I lived, struck me….the moment that

lingered in the phone. I tried using many phones to talk to her, but always the lines of time either too far in the future or too far in the past. None corresponding to the moment in which I dwell: a broken phone containing crowning glory of my life. Gathering my strength I leapt towards the door, hoping to open it and cry out to him. My feet turned to stone, so heavy that unable to take a step. The professor was watching me, observing me drenched in sweat. I tried calling my secretary. Usually I would always go to his desk to convey my request. It was the first time I had tried calling, begging him to stop Ahsan. But the phone was busy. My hands were lifeless. The moment in which I dwelled having been granted was cruelly snatched from my grasp at the last minute. I had found myself only to lose myself! Seeing my sweat-soaked countenance, the professor enquired if I was well. Sit down and have some water. I cradled my head in my hand. Despite my pretence at normalcy I could not successfully hide my anguish and pain. Suddenly he got up and I could hear him talking to someone next door to summon an ambulance. I remained with my head in my hands, searching for the moment, a moment which I had searched for ages, where my life dwelled - neither beyond it nor before it. The moment I had found, her laughter, I had heard her, oh but so short. The black phone still conveying a busy dial tone suddenly rang loudly, startling me…dragging me on a path in time where I did not know where I was – broken yet held together, straight but in convoluted circles. Someone enquired if I would not be up for badminton today. It was time for badminton I remembered, but I was lost in another world – strange where one travels. Picking up my rackets and a box of shuttlecocks, I left the office for the lift, to go down to from the fourth floor. While waiting I could distinctly hear my secretary giving directions to the ambulance. I was sure he saw me but he completely ignored me. The lift was crowded and I had to wait for it arrive a second time. Time was running extremely slowly and I was in a terrible hurry to get to my game. As I descended from the lift there was an ambulance waiting. Some paramedics with a stretcher were asking for the location of my office. The surprising thing was that no one was providing them with directions. Facing them I tried to point out the location but was entirely ignored. They remained in search of Ashraf Iqbal. They were grumbling thinking somebody had played a prank on them. There was no Ashraf Iqbal here! I saw Ahsan talking to them and appeared to be bemused. Ahsan was telling them that they were late in coming. They told him they were here within minutes. Ahsan told them either they were too late in coming or too early, in both cases the same thing. A strange thing perhaps they were too late or too early, but that moment in time was lost.

# Chapter 8
# So spoke Yousufi!

In a place of worship, known as Kozan, there was an animal trainer known for his amazing skills with lions. His fame was renowned throughout the country. It was widely believed among the people that trained lionesses could suckle and nurture human babies. The lions were also known to roar in accompaniment to religious hymns and songs, at this place of worship. One day a prince came to see the lion's astounding feats. Still recovering from the unbelievable performance, his gaze fell upon five dirty, sickly and lame lions, resting under a tree. Their hides were crawling with lice and ticks. The prince enquired if these were the lions, that the trainer was unable to train. "Unable," the trainer proudly retorted. "Your highness, infact they are the greatest proof of my success." He went on to narrate, to the prince, that they had been especially trained to guard the place. As soon the sun sets, one lions takes his position, outside the eastern wall of the place; another to guard the western side and two others take-up their positions to the south and north. They patrol the place of worship all night and protect the devotees from all manner dacoits and robbers. But there are five lions, the prince pointed out. "Who does the fifth one guard?" The trainer told him that even though the fifth appeared to be the most feeble and weak, he was the fiercest of the lot. Instead of keeping guard the outside of the building, he sits inside the premise and guards the main gate. The prince enquired; "What is the purpose of guarding the premise on the inside?" The trainer replied, 'your majesty many, many insiders, plant the seeds of destruction, on the inside."

Gentleman, who and where are these five lions? From which direction does this roaring lion emerge? Apparently lame, what manner of lion is this that guards a dream? A dream which our forefather dare to dream, sixty years ago? A lion invisible yet present the spectacle and the spectator -this lion who is all of God's humanity: that which I am and as are you, that you are as am I.

# Chapter 9
# Stirfe – 13.05.2017

Today we welcome you to a new episode of Takara, in a slightly different format, which hopefully will be welcomed by you. Let us start with a lost and forgotten song, which my brothers and sisters and those from my age group, would perhaps fondly remember. The song was picturised on two famous actors. Waheed Murad, the heartthrob of young girls and Shmaeem Ara, who we will talk about in a while. But first let us listen to the song:

Le aii phir khan per kismet humay khan say

Yai to vohi jagay hai guzray thay hum jahan say

Majboor kar rahi hai phir gardish-e-zamana

Hum Chairth day wahi pay guzra huva fasana

Laikin koi bata dai bholay hai hum kahan say

Yai to vohi jagay hai guzray thay hum jahan say

Teri hi anjuman mai yai intizar tera

Teray baghair sathi jashan-e-bahar tera

Yai kon si ada hai poochay gay asman say

Yai to vohi jagay hai guzray thay hum jahan say

Mehfil may hum aap ki kuch or tou na laye

Naghmat may saja kar jazbat lay kay aai

Yaad aai gaye hum bohat jaye gaye jub yha say

Yai to vohi jagay hai guzray thay hum jahan say

A very meaning full song: repeatedly we seem to arrive at where we started. The movie also stars Tariq Aziz. The song must have revived some old memories. It is the spring season. Have you ever had the experience of coming back to where you had left from? We will ask Ayesha the same question later.

Baynoor hai anakhay nor-e-nazar dikha do

Mudat say dhonti houn di ka karar la do

This is a romantic, passionate song. Shamim Ara, was a truly glittering star of the Pakistani cinema in the 60s. There are many anecdotes about her; among them was one, when she had stated that she would

marry the person able to plant the Pakistani flag on the Red Fort in India. This particular wish, desire and hope of hers was not considered that outlandish in those days. It was thought that she being so beautiful and desirable, some army general or for that matter a civilian would do so. This naturally did not happen. Why, you must have some inkling? When this did not happen, the actress curtailed her expectations somewhat. Her modified demand now required someone to plant a flag on Indian occupied Kashmir, before she would marry him. This too did not happen.

As Pakistani we wanted to conquer India, our relations with Israel were always non-existent. What we need to look at is the difference between us and them. Also, it is important to understand what is happening in Israel and India? To discuss these issues I rely upon a book and technical paper open in front of me. The book is entitled "Arithmetic for Parents," "A book for grown-ups about Children's Mathematics," by Ron Aharoni an Israeli professor, translated from its original in Hebrew. While the paper deals with the 'status of teaching mathematics in Israel'. If you are somewhat familiar with Israel, in the context of mathematics, you would know that they produced great mathematicians. Historically, Jews were always associated with mathematics. Einstein, of course was a Jew. Let us look at the paper in detail to see what they are doing and thinking in terms of teaching mathematics. "Most adults have long buried their memories of studying mathematics. All they really want is to forget the trauma. They accept their past incomprehension as tolerable. Painful fact: you do not really need to know mathematics; they console themselves; until one day when the need arises and the only insecurities resurface. This begins when their child begins dealing with the same experiences."

Do you know on what Israel's survival hinges? It the speed at which they can mobilize their nation when threatened. Every citizen is part of Israeli Defense Force (IDF); university professors, shopkeepers, women, the entire nation for that matter become part of the army. They use mathematics, operations research, to fight and defeat their enemies. Despite all this, even they talk about deficiencies in teaching mathematics. The first step towards rectifying anything is to be able to admit to your mistakes. Without this how can they be corrected? The results would be the same - Le aii phir khan per kismet humay khan say/ Yai to vohi jagay hai guzray thay hum jahan say. Every time there is a calculus class, learned teachers, after attempts at teaching, will only have this to say - they do not understand anything, they do not want to study mathematics; it is beyond their abilities; what I can do when they do not even know the equation for a straight line? This cycle will transpire every year. Le aii phir khan per kismet humay khan say/ Yai to vohi jagay hai guzray thay hum jahan say. Will there never come a time when someone intervenes and shakes us out of this rut? Forces us to understand what the problem is? Ever year thousands of students across Pakistan enroll in calculus classes. Every year their teachers are found in front of the Heads of Department complaining about their students. The other thing they do is to hide things - a strange predicament? Progressive nations do not behave in this way. They accept their faults and rectify them. In another book with me "Mathematical Mindsets," by Jo Boaler it too states the mathematics is not a difficult subject. Everyone can learn and teach the conditionality is of understanding and understandability.

Before moving on let me remind you that you are listening to FM 92.6, UCP ki Dunya (UCP's World) and the program is Takrar (Conflict) with Ashraf Iqbal as your host. If you remember Shamim Ara had said

that she would marry the brave who would plant a Pakistani flag on the Red Fort. In that context let us look at another paper, a position paper on "National Focus Group on Teaching of Mathematics. This was done by our neighbours , who we consider our enemies. A national commission taskforce, comprising of Indian professors, was formed by the Indian government known as "National Council of Educational Research and Training." Its findings were issued in a report, which if you get a chance to study, will remove the blinkers from our eyes. They state the same thing as the Israeli professor. By the way Hindus like the Israelis, are considered very apt in mathematics. Apart from the findings they have derived a mission statement. A rather bold vision based on extensive research and data. It is imperative for us to learn from them, rather than planting flags on the Red Fort.

"All students in India can learn mathematics and that all students in India need to learn mathematics. It is therefore imperative that we offer mathematics education of the very highest quality to all children in India."

Returning to our calculus class and the annual after class consternations upon what went wrong and why the students are not learning. Thinking about the problem we decided to gather our own statistics on why are students were facing difficulty in learning. Based on our findings we introduced a new course in our BSc. Program. The head instructor for this course is present with us today. As I had mentioned earlier concerning the change in format for the program, from now on a young instructor would accompany me in presenting a perspective on what we are attempting. The new course is based upon how, where when and why we learn: more importantly why we do not learn. Before moving to our discussion I need to mention the fact that great hopes are pinned on the youth. They are the ones who can provide remedies for what currently ails us. I have complete faith in them. With this let me introduce Ayesha Zaheer. My first question to her would be about her joining her alma mater Lahore University of Management Sciences (LUMS) where she graduated with her masters in computer technology. Also what were thoughts on the challenges faced by our university, UCP, upon joining the computer science department? Her joining this university was entirely accidental. As a fresh graduate she had the daunting challenge of taking up the most challenging job at our university. She faced these challenges with great intelligence and hard work. How did she mange this? With this over to Ayesha:

Starting from my MSc. at LUMS, there was only one motivation behind this: to find suitable place for research and then working towards a Ph.D at a good educational institution. The highly qualified faculty at LUMS for research work was another attraction. Moving to UCP was entirely a function of gaining some job/research experience to improve my prospects of gaining admission to a good doctorate program; especially in context of 'program analysis' which is my field. So basically some research and teaching experience were my main focus. Once here I got an opportunity to teach a rather different course. On being assigned this course, it took a bit of adjustment, especially since I was also a product of the existing educational system. A system which was already mentioned by sir: you are taught calculus with little understanding and greater reliance on prayers to get you through. When you enter calculus II you realize you are back to where you started from.

Le aii phir khan per kismet humay khan say

Yai to vohi jagay hai guzray thay hum jahan say

It was initially difficult for me to understand on how to pursue the course but with the passage of time, when things start to become clearer, the excitement of learning becomes evident. As understanding increases it becomes easier to make others understand; what we are trying to achieve and what is the motivation behind it.

AI – When you joined you did you realize the immense challenge on understanding how students learn and comprehend; how they should be taught, especially by someone from your background without any teaching experience? You must also thought of the possibility of failure? In such hig- risk projects the option of playing safe is entirely absent. Did any of your other colleagues from LUMS opt for such high-risk projects?

AZ- Not quite sure in terms of projects undertaken but I would like to mention one thing. Whenever I told a batch-mate that I had joined UCP, the first question would be what I would be teaching. Upon hearing about the course the first reaction would be what that is. Why are you teaching this? Why don't you focus on programming? Why not think of going abroad? If you move away from your field it will hard to get back. We have not heard of such a course and so on. Naturally this does lead to one questioning one's decision. Despite all this, what really motivated me was my own experience with calculus. I had great difficulty in class in terms of understanding. Being a fresh graduate I was more empathetic to the plight of other students, who would be facing the same problem. This is what finally, as they say, sealed the deal for me.

AI – From what you are saying the fact that you were a fresh graduate allowed you to appreciate the fact that there are truly roadblocks in terms of learning? It is not that they do not want to learn or understand or put in the hard work. There are actually reasons which have been discovered through the psychological branch of 'science of learning' – pedagogy. Experienced teachers here and in LUMS, according you have greater difficulty in relating to this, as compared to you, who was a fresh graduate?

AZ – Perhaps the faculty at times becomes too experienced. For them to understand why a simple and small things not being comprehensible to students, is extremely difficult. How can they not understand? This experience gap does lead to difficulties in teaching. For instance in LUMS, during my MSc., a course in 'probability' seemed to me, at that time, incomprehensible. The last minute panic and prayer prior to each exam and just hoping to pass were they key considerations. Having gone these things recently it was easier for me to relate. While experienced faculty comparatively have tremendous difficulty in understanding the pitfalls in learning for students. Perhaps I too would have the same mindset if I had been teaching for a while. The conventional framework of a teacher going to class and imparting knowledge; understanding is solely the domain of the student and not the responsibility of the teacher. Grading of the students remains the major concern.

AI – With you permission if try to summarize and state more boldly what you are trying to say: what you are actually saying between the lines is that teachers do not really care whether the students are learning anything or not.

AZ – To an extent yes!

AI – The question then arises what is their actual duty? Do they go to class to give a sermon? If this is the case we can perhaps replace them with a tape-recorder? As you know in most private universities, and to some extent even in public universities, the pays for teachers now are quite significant. If they are not willing to understand the problems faced by students, and how overcome these, what is the point?

AZ – It seems to me that this leads to some frustration among the teachers. When faced with children that appear to be taking an interest and those that are able to absorb knowledge quicker, compared to those that cannot, leads to this situation. The teacher's frustration is directed towards those that cannot. Why can't they learn? Why can't they be as excited in learning as I am in teaching? This ultimately leads to a conclusion that the person does not want to learn - a convenient justification.

AI – So basically you are holding the teachers as responsible, for not fulfilling their obligation? You had also mentioned the fact that, while some students have no difficulty in learning while others do not: how does our course relate to these. Can you cite some instances of what role our course plays?

AZ – The first thing we did, when starting the course, was to tear-down the traditional barrier of 'respect' between the teacher and students: the reluctance of a student to ask questions.

AI – You eliminated respect?

AZ – No the barrier which arose out of it. What has now happened is that when the students are unable to understand they say so. They can now out rightly comment: this is not understandable; it is boring; or putting us to sleep. Instead of reacting in a typical manner to these comments, we try to brainstorm the underlying problem with the lecture. Why was it that the students could not relate? Why was it not exciting? Based on this we revised the lecture. Moving away from the conventional teaching model, our biggest challenge was to change the student's mindset into thinking for themselves, i.e. you have to answer the question. Since most are from traditional systems, where a teacher would come to class explain something and ask questions. Whether you understand the material was entirely your responsibility - try to remember if you cannot understand, or learn by rote and if nothing else resort to cheating. Changing this framework and making the students think for themselves was our biggest challenge. Most students upon not receiving an answer assume that the teacher does not know his material.

AI – Did you not ever want to go back to your alma matter and tell you teachers that all their experience was an impediment? What should they be actually doing?

AZ – *Slightly hesitant!* I think that respect for teachers should be there but the barrier refraining you from enquiry needs to be eliminated. This could also perhaps prove beneficial for other students who may be facing the same problem.

AI – There shyness needs to be eliminated. *The teachers should be made unrespectable and the students unashamed?*

AZ – Levity aside the student should have the ability to put across the queries without any reservations. The teachers too should not take offense and be receptive to new teaching possibilities. Instead of one way exchange of idea the classroom should dynamic and interactive.

AI – I believe this is the second time that you are teaching this course to around 700 students? What was the student's initial reaction?

AZ – At first there was great outcry and most protested against it. This was mostly due to the course format, i.e. that you will not be provided answers. You would be encouraged to argue the questions from a perspective which meshes with the appropriate answers. Initially, after a while they would ask for the right answer. Upon being told that even we did not have the right answer, they would invariably ask: if you do not know why are you teaching the course. However, with the passage of time they started to enjoy these discourses. Their questions turned to where these ideas come from; who designs these lectures and how do you know this is to be taught in this was? So initially it was rather difficult.

AI – Apart from being the instructor for this course you were also its coordinator? I believe last year there 12 sections and around 600 students enrolled in it. Who were the other instructors with you? Were they experienced or fresh graduates? What was your experience with them during training? Can you please provide their names?

AZ – After initially launching the program I was joined by Mommal, who was already teaching at UCP, in faculty of engineering. She was quite excited by the course and later Rabia, Maria and Kanza joined. We had selected the team on the same basis; i.e. putting to them the same questions that we had designed for class. We closely scrutinized their reactions are they as excited by the ideas as we were. From this you can gauge their interest in the subject matter. As I had mentioned earlier, I too had gone through the same process. Sitting in a classroom, with great attentiveness despite the fact that you do not understand; attempting to memorize the stuff or learning by rote. So it was rather easy for me to relate with the problems students face. My team too was very cooperative and very excited by the course. It only took us a short while to become an effective and cohesive team.

AI – So all the team comprised of young people? What if there were senior teachers? Would this have created problems?

AZ – *Again hesitant!* Probably, but from the start our focus was on fresh instructors. The problem would be that the senior faculty would come with their preconceived notions as to how to teach: something at which they have been quite successful in the past.

AI – They remain in their shells.

AZ – Exactly and if you attempt to break this shell and tell them that what you had been doing for the past 10 or 15 years was completely futile; you would expect some resistance.

AI – Why were all the instructors in the group females?

AZ – It was a deliberate decision. It was just that I found them more excited and receptive to the program.

AI – Does this mean that the males were less excited?

AZ – In the terms of the candidates yes, but again it was the objective to hire only females.

AI – Can you recount for us some memorable encounters in class, whether pleasant or unpleasant? Were there any surprises?

AZ – When we first started working on the course, we did not know what to expect from the students. The beginning of the course was particularly confusing for the students, since they could not fathom what its purpose was. For instance to the purpose of the earth rotating at the behest of God, what was its purpose. They could not comprehend this. What was the need of questioning something when it was ordained so? This also led to a second reaction, which was that we did not the 'why' ourselves. It was surprising how things changed with the passage of time. In a lecture I had prepared and was expecting that we would come to a conclusion after half-an-hour or so discussion, a student came up with the answer in five minutes or so: a turning point which was quite an emotional moment for me. We were a stage where children had arriving at conclusion on their own. The journey from resistance to complete cooperation, at times they were even ahead of us, was truly rewarding.

AI – Did it ever happen that you thought about what question should arise after a particular discussion?

AZ – During our discussion I repeatedly enquired as to the purpose of the course. This led to creative mindset among the students; a different mode of thinking where innovation could be seen. There were thoughts about attempting something new. Do something for the nation. Looking at things critically; for instance what was happening with the media. There new mindset seems to be instead of absorbing information mindlessly they should be analyzing this information. There was also much debate on how things could be improved for the country. In the end of the course, upon enquiry, if the course should be continued, there was complete affirmation.

AI – Here I should let our audience know that this course was based upon the discipline of 'social constructivism' and *Ausubel theories. According to which if you need to understand something or solve a mystery, form new conceptual frameworks, it is akin to constructing a building. First you need to put the foundations in place, walls are then raised and then the roof goes into place. The entire process is sequential; if one element in the chain is missing you cannot move further: if there are no foundations than there will no walls and consequently a roof. So when constructing new knowledge it always built upon and contingent upon prior knowledge. When learning if there is basic prior knowledge and suitable learning style then there should be no problems; while the inverse would only compound problems. Einstein had to this say about social constructivist theory: that it was so simple, that only a genius could have thought of it. Since a theory is designed to explain complex phenomena, the simpler it is, the more effective it is. Who other than Einstein could truly appreciate this?

**David Paul Ausubel (October 25, 1918 – July 9, 2008) was an American psychologist. His most significant contribution to the fields of educational psychology, cognitive science, and science education learning was on the development and research on advance organizers (An advance organizer is a tool used to introduce the lesson topic and illustrate the relationship between what the students are about to learn and the information they have already learned. They are used during expository instruction, which is the use of an expert to present information in a way that makes it easy for students to make connections from one concept to the next.)*

AI - While teaching this course did you get a glimpse of how children construct knowledge in their brains?

AZ - It takes time to fully utilize these learning principle in relation to acquiring knowledge. The amazing thing is to see the varied manner in which different children construct knowledge. It all starts with thinking! Once this is learned, construction of knowledge can begin. The difficult part is to make them realize and provide confidence to think on their own.

AI – I would like to remind all our audiences that if we truly want to create a truly great nation and to make this beautiful country even more beautiful, we need to start by accepting our mistakes. Only if we do this can we be begin to rectify them. I remember in University of Engineering & Technology (UET), where I was a professor for over 25 years, in every meeting the topic was an exam boycott. In those days there was complete lawlessness there. The meeting all seemed the same - Le aii phir khan per kismet humay khan say / Yai to vohi jagay hai guzray thay hum jahan say. Infact during one meeting I even told them that we discuss the same thing, a walkout by students and when to reexamine them. Could we not for once try to shake ourselves out of this routine? Could we not think something was wrong? The main difference between animals and human is intellect. If we are stuck in a loop; every year we do the same thing, with the same results and do not attempt to do anything about it, what is difference between us animals. This is an essential fact which needs to be pondered deeply. Our course I believe is a small step towards a much larger change. We should teach children to think and encourage them to create knowledge by themselves. They should be taught how exciting and enjoyable the process of knowledge construction can be. Once they step on this path they will truly realize the excitement of that 'aha' moment, when things finally click together. Consequently, dear audiences the sole purpose for offering this course was keep the torch of knowledge blazing brightly. Our conflict continues, with those who want to douse these torches. Perhaps this course proves a small step towards this endeavour. With this, Ashraf Iqbal and Ayesha Zaheer, seek your permission to bid farewell. Please note my cell number, 0300-8477359 and my email id is ai.ashrafiqbal@gmail.com in case you need to contact me.

# Chapter 10
# Strife: 20/05

Dear listens we welcome you to another program of the series entitled 'strife; with Ashraf Iqbal at FM 96.2 from the world of University of Central Punjab (UCP). In today's program we will narrate many stories, including some moral oriented one. If I were to encapsulate today's lecture in one sentence it would be through a proverb, which can also been seen at my facebook page: "the road to hell is paved with good intentions" - a surprising statement but also very true. We can also put it this way: "the road to heel is paved with noble intentions." The hell we are talking about you will shortly discover for yourself.

That aside we begin today's programme with the poster in front of me. A poster which was printed on behalf of the university's faculty of information technology (foit), in which were advertising an international conference on 'Innovations in Teaching Mathematics'. It will be first of its kind in Pakistan solely devoted to teaching mathematics. As it is written in the poster, "for the first time in Pakistan students and instructors from schools, colleges and universities shall share a common forum/platform with researchers, pedagogists and technologists to find innovative ways of teaching mathematics." Prior to this we will also be taking this forum to all provincial capitals in the form of workshops, where our primary task would be diagnostics. By diagnostic we refer to the understanding, appreciation, problem solving and applicability to daily life of mathematics. This will allow us to gauge the level of mathematical use and understanding at each educational level, from schools to universities. I am sure you must have a sense of the importance and utility of mathematics; we will discuss this in greater detail later.

The poster also contains a rather bold statement, which can be construed as our motto or mission. "All students can learn mathematics. All students need to learn mathematics and we should offer mathematics education of the very highest quality to all children in Pakistan." This was developed by our newly formed center for Council for mathematics teaching and research, headed by Dr, Shahid Siddiqi, who is director for the center. The center is also responsible for organizing the mathematics conference. It directly addresses the prevailing misconceptions about mathematics; that it is only for certain people, i.e. he or she is math's person, is not acceptable to us: a fact which has also been refuted internationally. The chairperson of the seminar is Dr. Shahid Siddiqui and our Prorector, Mr. Zafarullah, its patron. These days were busy in organzing this conference, as mentioned earlier prior to which we will be holding diagnostic workshops in all provincial capitals. This would allow us develop consensus on what our abilities are where we stand mathematically. What are our weaknesses and failings? To what extent do we utilize mathematics in our daily lives? The scope of the diagnostic survey is not solely confined to the urban centers, through it we will covering every corner, however remote, of Pakistan. Based on the data gathered we would be in a position to develop a composite statistical picture of the country. We currently have some inkling of the prevailing situation but this diagnostic exercise we will be able to substantiate our finding both qualitatively and quantitatively.

There is also a cartoon in the poster: in which a child is looking at the word maths and thinks its spellings stands for: “mental abuse to humans.” A perception we are trying to change. Some of the activities in the seminar would be directed towards this: why children love mathematics or hate it? Most probably hate it. How do we turn this around? How do we incorporate mathematics into games? How is mathematics utilized in nature or in real life? How do we convince them that mathematics is fun? Diagnosing open ended mathematic challenges! We hope we are successful in our endeavor.

There are many students involved in the initiative, including those at our university. Surveys are being conducted with students and teachers. It is a huge undertaking. Yesterday, a strange thing transpired. A female student hired for the survey had a query for me. A good thing too since she said what she was really thinking, where others would have hesitated and for that I remain grateful to her. It is because of her question that I am doing this programme. Her question was so important that as a response this entire programme was needed. He question in itself was rather simple, “Why are you doing all this for the sake of mathematics; it is useless subject little utilized. It is completely dry, dull and uninteresting; why all the effort then?” “I am willing to help in what you are attempting but I do not understand it.”

This programme then is an attempt at answering this question and dedicated to Qanita Bukhari. So what is the importance of mathematics? To begin we need to travel back in history; although I am not a historian and especially a war historian. I will narrate to you some stories, naturally there will be gaps in what actually transpired but we will try to remain as close to reality as possible. The Second World War, most of you would not have been born then; even I was born in 1951 and was not around. Known as the ‘great war’ its scale was enormous. The German forces to take-over the British Isles. Thousands of children’s were evacuated and shipped to the US for protection. Some of these ships were targeted by the German navy and were sunk. It would hard for you to comprehend its scale in terms of the destruction wrought and people killed. In the war Germany, Japan and the fascist Italian regime were aligned on one side. The US had not entered the war at that time. How they did so is an interesting story. Perhaps you are familiar with the name Yamamoto: the Admiral commanding the Japanese forces, responsible for launching the surprise attack on Pearl Harbour, US base, on December 1941? It was through this attack that the Japanese managed to destroy a large part of the US navy. This naturally caused great resentment among the American who now wanted to avenge the attack. Japan and especially Admiral Yamamoto were high on their priority. America entered the war.

The war was not only being fought on land, air and sea but also in mathematics classrooms and research centers. Some of the top American mathematicians were solely focused on deciphering Japanese high command communications, which were, naturally, encoded. An entire department, comprising of mathematicians was dedicated to decrypting these messages. This is a specialized branch of mathematics. Finally, they managed to decrypt a message. It contained information that Admiral Yamamoto was travelling to a captured Island in a naval convoy. The message contained information about the particular ship he was travelling on in addition to information about the escort ships. This lead to US airforce planes conducting a sortie, flying under the radar, to target Admiral Yamamoto’s plane. They succeeded in eliminating him. Who deserves the credit for this mission: the airforce pilots or the mathematicians responsible for decrypting the message, identifying the admiral’s exact location?

I think you can arrive at the appropriate conclusion on your own. It was the same in most wars later; they were fought with the same intensity on mathematic blackboards as on land, sea and air.

Unfortunately, we Muslims are quite deficient in the discipline. Now, perhaps, you can see the rationale behind organizing the conference?

Maybe a few more stories would be appropriate? In front of me is an Israeli newspaper, the Jerusalem Post. It contains a piece titled "The 1967 Arab-Israel war – a war nobody wanted." Perhaps a reminder of the earlier proverb at this stage is appropriate: The road to hell is paved with good intentions. The author was not only the advisor to the Prime Minster and the Army Commander, but also fought in the war – Michael Bar-Zoha. Above the story there is sub-headline in bold, "On June 10, 1967 the war was over and Israel was stunned to discover it had an empire in its hand." The Israeli's had unbelievably increased their land area, many folds, through its occupation of Arab lands. This was a defining moment in Middle-East politics and its repercussions linger to this day. The turmoil and bloodshed you see these days; the situation in Libya, Iraq and Syria are all to degree directly linked to this episode. Getting back to the story, the writer stepped into the PM's room, where the army commander was also present. Both were looking worried. The author addressed the PM and told him that he should happy with Israel's success. They had captured areas, like the Golan Height, Jerusalem and Egyptian territory of entire Sinai region, which they had never imagined. The PM, Levi Eshkol and General Moshe Dayan, told him that they were waiting by the phone, for the past 24 hours, in hopes of receiving a call from one of the Arab states, requesting us to hand back the land we have occupied. Their fear was how they would manage it. A strange paradox!

This was the beginning of the proverbial hell that we were talking about earlier. A hell in which the current Arab world is confined: The road to hell is paved with good intentions. In Egypt Colonel Nasser was in power, a decent man who was also a staunch nationalist. He along with other Arab leaders wanted to right the unjust creation of Israel and the unfair treatment meted out to the Palestinians. Egypt was aligned with Jordan and supported by other Arab states; there was unity among the Arabs then. It was a war no one wanted, neither Egypt nor Israel, but the circumstances were such that they were gradually dragged into it. Prior to the war, Egypt was warned by the Soviets that Israel was mobilizing its troops to attack. This intelligence later proved to be false. As a cautionary measure Nasser also ordered his armoured divisions into Sinai. This has occurred before but when Nasser ordered United Nation peace-keepers to vacate the peninsula, the UN Secretary General, U Thant, a competent and intelligent man, complied. A fatal mistake: another case, the road to hell being paved with good intentions. With the withdrawal of UN peace-keepers, Israeli and Egyptian armies were face to face. Nasser followed this with further belligerent steps. He ordered the closure of the Straits of Tiran, blocking Israel's access to the Red Sea.

There were only two people at the time who understood where this would lead to; Nasser himself was not sure. One of the people was the Israeli military commander, Moshe Dayan, a sharp, shrewd and crafty man. The other, as mentioned in the newspaper article, was Mohammad Hassanein Haykal, Editor of the pro-government Egyptian newspaper, Al-Ahram. They both realized that war was imminent. As the Egyptian tanks moved towards Israel, there were no options left but war. Under

these circumstances the Israeli parliament decided upon war. The surprising thing internationally was the lack of support by American. Charles De Gaulle in France announced his clear support of the Arabs and stopped shipment of spare parts for the Mirage aircrafts it had sold to Israel. None of the major powers was supporting Israel but despite this they decide to fight the war imposed upon them. There plan was entirely based on an offensive strategy, since defending the small state of Israel was an impossibility. It is mentioned in the newspaper story that on the actual day of war, the airforce commander in his address to his pilots told them that they have five minutes to completely neutralize the Egyptian airforce. "If you are successful in this mission you will have homes to return to otherwise none. This is a battle of survival." This was in front of the entire airforce since they were to be deployed as a whole.

The operation went as planned and the Egyptian airforce was wiped-out in minutes, leaving their armoured divisions like sitting ducks for the Israeli airforce. With the Egyptian army in disarray the Israeli forces manage to make their way upto the Suez Canal. At this utter defeat the Arabs were completely demoralized. It seemed that there was no one to stop the Israelis. They could fly to Cairo by helicopter and dismantle their radars with impunity. This left Nasser no choice but to fly to the USSR and request them for assistance or threaten them with ending their relationship. Nasser was asking the Soviets to send their airforce to Egypt. The Soviets refused. Nasser then asked for soviet pilots for the planes they had supplied to Egypt. Again, the soviets were hesitant and instead offered to train Egyptian pilots. Nasser told them that there was no time for this. They reluctantly agreed to this and the deployment of SAM (Surface to Air Missiles) defenses. Their condition for sending Soviet pilots was that first they would have to learn Arabic, so no one could identify them. Upto then Israeli planes were flying regular sorties over Egypt. In response the few remaining Egyptian planes would be scrambled, to be attacked by the Israeli airforce, leading to one or two being destroyed on a daily basis – further demoralizing the Egyptians. Finally, after three months, the Soviets pilots were supposed to takeover. Haykal, writes in his book, that he, Nasser and the Soviet were in the war room, impatiently waiting for an Israeli raid, to see they would fare against the Soviet pilots. The new pilots were strictly ordered to only communicate in Arabic, with the proper accent, while communicating in the air. Haykal, in a dramatic style writes, that while earlier they would dread the Israeli strikes, this day they were waiting impatiently for them. Finally, the Egyptian radars indicated the arrival of Israeli planes. The soviet pilots took to the air and instead of attacking the Israelis, ran from them, as had the Egyptian pilots. Nasser stood-up from his seat and Hatkal looked towards the Soviet Ambassador: what was going on. The ambassador smiled and in a little while there was clear Arabic being spoken on open channels, which could be heard by anyone, by the Soviet pilots. At this Nasser was beside himself with joy. But suddenly the pilots started to speak in Russian. Nasser troubled again asked the ambassador what was going on. Suddenly they saw that the Israeli pilots had started to turn around, they too had heard the Russians. The Soviets had made their message quite clear. Next they attacked the Israelis and very few were able to return to Israel, demonstrating their superiority. We are as good as you in mathematics – we will see how this relates later on. Please note how the superpowers convey their message. The Soviet pilots could have only used Arabic to mislead the Israelis, but they wanted to make sure the Israelis knew who it was.

With the Soviets taking over things started to change. Demonstrating their prowess they started demoralizing the Israelis, who started to send fewer and fewer planes. Seeing the few encounters between the two, America told Israel that fighting with the Egyptians was one thing but taking on the Soviets entirely another. "This could lead escalation and our involvement. You cannot match the Soviets. How many of your planes have been destroyed? Call for an immediate ceasefire." The Israelis agreed but requested for one opportunity to avenge their humiliation. After this they would agree to a ceasefire and all conditionalities including no further violations of Egyptian airspace. The US gave them one day. The Israeli airforce planned operation 'Mole Cricket 19' to teach the Soviets a lesson.

The operation was formulated through mathematical game theory. All probabilities, permutations and combinations were analyzed. Most of you probably think of statistics and probability as a dry, boring subject. The Israelis were very good at it. War game simulations were designed to counter any Soviet maneuvers. Thousands of simulations were created. There top mathematicians worked on them day and night. This was not only confined to the skies but also fought on mathematical blackboards. The Soviets did not know that top Israeli pilots would be deployed with great planning. Some of the strategies included dividing the planes, some flying at ground level and others very high, suddenly swooping on their targets with the element of surprise. The war had not occurred yet, but the Israelis had already won it on the blackboard. The date was July 30, 1970. The operation is also known as Operation Rimon 20. On that day when the Israeli pilots crossed into Egyptian airspace, the Soviets has no idea that this was only a distraction; with the main strike force was either at a very high altitude or at tree-top level. The raid only lasted for five minutes or so, in which five Soviet planes were destroyed and four pilots lost their lives. On the Israeli side only one plane was damaged. From the Egyptian/Soviet side there were 24 Migs, while 12 Mirages and four Phantoms from the Israeli side in the engagement.

The situation you see in the Middle-East today; the devastation, the loss of life, the breakup of families is all due to their shortcomings – the road to hell is paved with good intentions. In this devastating loss for the Soviets, who do you think would be the most happy. Nasser was alive at that time. Naturally, the Israelis were overjoyed, but surprisingly, the Egyptians were equally, if not more, happy at the outcome. The reason behind this was the long relationship with the Soviets in which the Egyptians were always treated with disdain. They were often told that they were useless. Seeing the Israeli mathematicians besting the Soviets, the Egyptians too felt some pride.

The underlying lesson of this war, which I want to communicate to you, is that the war was not fought between airplanes or by the pilots, naturally their role was critical and required bravery, skill and the will to look at death in the eyes, but true credit goes to the mathematicians behind the scenes. Now, I hope you can see the criticality of mathematics and why we are attempting to spread its knowledge throughout Pakistan. The outcome of future wars will be decided prior to the actual engagement. War games and simulations will determine the victor and the vanquished.

I hope that all our listeners would contribute to our attempt and help us in organizing a productive and successful conference. Not because for the love of mathematics but for the safeguarding our future generations from any existential threats. Another point which we need to be cognizant of is that during

the conflict all Arabs and Arab states were united. Most were being ruled by honest people with noble nationalistic aspirations and intentions. Their mains shortcoming was their lack of expertise, especially in the field of mathematics –the road to hell is paved with noble intentions. With this I seek you leave, until next time.

Please note my cell number, 0300-8477359 and my email id is ai.ashrafiqbal@gmail.com in case you need to contact me.

Remember to teach your children mathematics, here I am not referring to basic computations, but actual knowledge: the purpose behind organizing this conference. Help your children develop a passion for the subject and not only for grades – it is a matter of survival.

# Chapter 11
# Strife III !

Woh tamam din, woh tamam gham jo guzar gaye

Humaye yaad hain, humaye yaad hain

Woh lutay shuag woh ismatay

Jo fasana hai woh haqiqatay

Woh tamam ghar jo ujart gaye

Woh aziz jo sub bicharte gaye

Humaye yaad hain, humaye yaad hain

Woh tamam din, woh tamam gham jo guzar gaye

Humaye yaad hain, humaye yaad hain

Woh ajeeb loag woh qaflay

Jo na ruk sakay jo na bhatak sakay

Jo chaman saja kay chalye gaye

Jo watan bana kaye chalyegaye

Humaye yaad hain, humaye yaad hain

Woh tamam din, woh tamam gham jo guzar gaye

Humaye yaad hain, humaye yaad hain

Woh tamam ahed jo farz hain

Jo amanate hai jo karz hain

Jo pahrate thay zarb-e-kalim may

Jo huvay thay shahr-e-aleem may

Humaye yaad hain, humaye yaad hain

Observers, participants, sons and daughters: I have deliberately left out the usual brothers and sisters' salutation due to a reason. Today is April the 1st and I welcome to you a series entitled Takrar "Strife" with Ashraf Iqbal. The title of today's talk is:

Khud Farabi ya tajahul-e-arfana

Self-deception or willful ignorance

The reason for not using brothers and sisters is my age. The part of age in which I am, there are things to say, which you may dislike. I belong to a generation which has, in all honesty, given very little to the nation. All our hopes are pinned on you. Our expectations are that you would somehow contribute to this beautiful nation of ours. Today, being April 1st, it is celebrated world over as April fool's Day. Some also choose to celebrate it here. I neither celebrate it nor prevent anyone from celebrating it. I am quite indifferent to it either way. Those who choose to celebrate it take the opportunity of making a fool of themselves and their friends and society, once every year. Then there are many friends of the same age as I, who do not make a fool of themselves once every year, rather they choose to do so for 365 days in a year. They remains victims of self-deception; a terribly dangerous thing. Looking at self-deception from a different perspective, tajawul-e-arfana; the word tajahul is taken from ignorance while 'arfana' is quite common and denotes knowing, in a spiritual sense. Today we talk about this. There maybe things that you may not like. Through this radio program, via University of Punjab (UCP) FM, want to provoke you; to create strife in your mind; to free you from being victim to this self-deception. Nations who fall prey to self-deception are wiped-away. We will discuss what price they have to pay for their ignorance. This April 1st program is special. It is on self-deception and knowing ignorance.

On my writing-table lies an old revolver. It was gifted to me by students ------ on the back of it there is an inscription: "For all the battles you have fought." When forced to leave a renowned university, 17 years ago, my students told me that they wanted to arrange a farewell of me. They also said that they knew that I would not attend the farewell arranged by the faculty – willful ignorance. Yet, they requested that I attend theirs. Even some faculty said that they would don the guise of students and attend this party. Having gathered for the farewell we sat in a circle on the grass. The students started a litany of praise for me: praise for which I was completely unworthy. Yet, on these occasions exaggeration is often considered polite. Whatever – there was some exaggeration and some truth. As the party progressed the attendees decided to narrate of our first encounter. What they had learned from Ashraf Iqbal: how they found Ashraf Iqbal to be? Among the students there were both boys and girls. Also present were a cross-section of my acquaintances; some working on projects with me, while some others who I had helped placed into other educational institutions. Some students started describing how I taught in class, while others mentioned what I did in his office; a few mentioned how I, at times, had come to their help. In the end it was the turn of a girl named Rida Khan. She said that the others did not know who Ashraf Iqbal was, rather she did. While working in an educational institution with me, where I was the rector, she narrated: two rather beefy gentlemen visited my office and placed a piece of paper in front of me and asked me to sign it. On the paper it said that I had been ousted as a

rector and had to vacate my office within two hours. If not than my belongings would be thrown out. Rida enquired of the participants at the farewell as to my reaction. How would have Ashraf Iqbal reacted? I was the sole witness. She said she had seen Ashraf Iqbal go down fighting and not compromising. Ashraf Iqbal first called for the peon and asked him to bring some 'Millo' for Rida, who did not take tea. Then gathering his belongings he sat in his car and drove away. While leaving he was told by the security people to take a good look at his office since he would not be allowed to enter the premises again. We start to take pride in small incidents. My students elevated me to point where I did not belong. How small and a weak man I am; only I know.

When I joined this university as dean, the first thing that I did was to open the doors of my office. My willfully ignorant friends had advised me to do otherwise. They said they needed my capabilities, the little that I had, and needed me here. It would make things easy for me and for them. I enquired as to what they meant by this? They were rather cryptic and said to allow anyone in. Since childhood, I have trouble keeping away from doing what I have been refrained from. I have to at least try it once. So I opened my doors. A multitude of students with their problems immediately burst through it. Their story we leave for another time. Of these students some started to voluntary work with me on projects including learning design, drawing, beauty in mathematics and some on how children learn. Why is it that children, have difficulties in learning? How can we create the required excitement for them to be immersed in the learning experience and be excited by mathematical concepts which appear boring? Naturally, these students became rather close to me. One day, one of them, asked me a rather strange question: a question which had never been asked of me earlier in my life. He said that I was quite different from other teachers and that one could drop into my office at will, even during meetings. If a student has a serious problem they too could approach me. They went on to say that another thing they had noted was that there were always songs playing in my office.

Perhaps, you the listeners, might too have noticed a song playing in the background? It is a very meaningful song. Why is it playing in the background? I will tell you why in a little while. Returning to the students they told me that from the songs that I play, something hidden become evident from face. Something not apparent yet concealed. How they came to this conclusion I cannot truly say. How the managed to glimpse in my heart I do not know – not an easy thing to do.

Meray dard ko jo zuban milay

Mujhay apna nam-o-nishan milay

Mujahy kainat ki serwari

Mujahy daulat-e-do jahan milay.

That my pain finds a tongue

That I discover a trace of me

Mastery of creation,

Treasures of two worlds bestowed upon me

They said that certain sadness, something tragic, dwelt within me. Despite the fact that you remain positive what is the shadow that passes over your face? You want to be help others but appear broken from within.

Ghum-e-jana ya gham-e-doran/ The beloved sadness or life's sadness?

As the poet Faiz stated: Mujh say pehli si mohabat meray mahboob na mang/ Do not ask of past love, my beloved, from me.

Of love and life the two take place in tandem: exactly what the song, in the background captures. So they further enquired of me, "why this sadness;" a question which I will try to answer today. My story! Today's episode will mostly revolve around this and willful ignorance.

The song playing in the background contains the following lyrics:

Vo tamam din vo tamam gham jo guzar gaye

Humay yaad hain, humay yaad hain.

Vo ajjeeb loge vo qafilay

Jo ruk na sakay, bhatak na sakay

Vo tamam ghar jo ujart gaye

Humay yaad hain, humay yaad hain.

Vo lutay sohag vo isbatay

All those people, all those sorrows that have passed

We remember, we remember

Those strange folk, those caravans

That could not be stopped nor waivered

All those houses, that now desolate

We remember, we remember

Those broken bonds of matrimony, those

From here we delve into history. At whose behest did Ahmed Shah Abdali come? How may marriages destroyed and women plundered? Willful ignorance!

Jo fasana hai vo haqiqatay

Those tales, that were once true

Is this a fact or fiction? Here I would remind you of a talk by the writer Intizar Hussain, who discusses another author, Mushi Prem Chand, at an international convention. Hazrat Zainab at the palace of Yazid:

Vo tamam khaimay jo ujart gaye

Vo aziz sub jo becharte gaye

Vo ajjeeb loge vo qafilay

Jo ruk na sakay, bhatak na sakay

All those tents which were razed

Those close continued to separate

Those strange folk, those caravans

That could not be stopped nor waivered

The remnants of the Imam's caravan, over which Hazrat Zainab presided as it made its way to Syria? How she entered Yazid's place, do you remember? We remember, we remember and will always remember. As the story unfolds it tells of her being in mourning for 40 days. With her were her followers, strange people indeed; that never gave up or waivered. Jo chamn saja kay chalay gaye, jo watan bana kay chale gaye/ Those that adorned the garden and left, those that a country built and left. Getting back to our story, while in mourning Hazrat Zainab was approached by her slave-girl to inform her that there was a visitor, who claimed to be a Brahmin. Despite being informed that the lady was in mourning and unavailable he was insistent upon seeing her and reiterated the fact that he was Brahmin. He was quite certain that he would not be refused a meeting. Immediately upon hearing this Hazrat Zainab, stood-up and gave up her mourning. Those around her were amazed that she had come out of her mourning. The visitor was called in and served a meal. People were now truly stunned that someone of her stature had invited a Hindu Brahmin to meal. After the visitor had left, one salve-girl was unable to quell her curiosity and questioned Hazrat Zainab on what she had done. Hazrat Zainab responded: "do you know who that was?" She said, "She did not." Hazrat Zainab told her that he was Hindu Brahmin from India who was travelling with his seven sons. Upon reaching Karbala he met-up with Yazid's army of whom he enquired as to what was going on. He was told why the army was there. This appeared very strange to him and he decided to enquire of the other party. Upon entering Hazrat Imam Hussain's tent, along with his sons, he enquired as to what was happening. Hazrat Imam Hussain told him the entire narrative. At this he responded that this was entirely unjust and some action needed to be taken. The Imam enquired as to what he was contemplating and anyway they were vastly outnumbered.

Vo tamman din, vo tamam ghum

Vo tamam log, vo tamam ghar jo ujartgaye

All those people, all those sorrows that have passed

Those strange folk, those caravans

That could not be stopped nor waivered

All those houses, that now desolate

The Brahmin responded that this did not matter. He offered to fight alongside Hazrat Imam Hussain and his followers. He was told that they would be killed. To which he responded that it did not matter. They would at least be able to pay-off our debt.

Vo tamam ahed jo faraz hai

Vo taman qaraz vo amanatay

Jo partay thay zarab-e-kalim may

Jo huvay thay sheher-e-Azeem may.

Imam Hussain smiled at them and asked if they were accepting Islam? He was quite certain that they were and would then fight alongside him for what was right, the truth and against oppression; and to be martyred along with him. The man replied that he would not change is religion, which he considered to be the truth. He was curious as to what this battle had to do with religion? To him this was about right and wrong; and fight against oppression and tyranny; a fight which is part of all religions. Yet, he was adamant about sticking to his religion. Some at that point might have thought that this was his opportunity at salvation and a chance to enter paradise; yet he refused.

In the ensuing battle seven of his sons were martyred and he was badly injured himself. As soon he was able to travel the first thing he did was to pay his respects to Hazrat Zainab: the reason why Hazrat Zainab left her mourning to welcome the guest. A slave-girl, unable to contain herself, asked Hazrat Zainab if these Hindus had come all the way to fight alongside Imam Hussain. She told her that was so. The slave-continued with enquiry and asked if all the Muslims were dead there?

Humay yaad hain, humay yaad hain.

Vo ajjeeb loge vo qafilay

Jo ruk na sakay, bhatak na sakay

Jo chamn saja kay chalay gaye, jo watan bana kay chale gaye/ Those that adorned the garden and left, those that a country built and left.

Do we remember who was responsible for creating the Pakistan Steel Mill or the Heavy Mechanical Complex? Who laid the plans behind the atomic bomb?

Vo tamman din, vo tamam ghum

jo guzar gay

Debt was mentioned in the story: The necessities of bread, clothes and housing should be available for all. Every person should be provided equal opportunities to education and health. This is our debt, a pledge we had taken earlier but now forgotten. The debt we are talking of here is not of financial loans, which are later defaulted on. A different sort of debt which hangs upon our heads but perhaps now forgotten. These are profound question – willfully ignored! After Ahmed Shah Abdali, a movement under Ismail Shaeed originated. An armed group rose from Bengal and crossed through territories held by the British. They were trying to impose their vision of Islam, not in Bengal, but in the tribal areas, where the Sikhs ruled. The strange part was instead of cracking down on an armed group, passing through territories controlled by them, the British facilitated them. Why was this? Willful ignorance! After that came the Khilafat movement. You probably might remember its famous gathering, where 'Maulana' Gandhi, gave a fiery speech, exhorting Muslims to give up their jobs and sell of their properties and possessions. Something which he did not say was that these could then be acquired by Hindus at nominal rates; he was too smart to say this outright. The speech was warmly received. Next it was turn of the Mohammad Ali Jinnah. When he mounted the stage, the Ali brothers too were present on it. In his usual direct style he began by addressing "Mr. Gandhi." He wanted to point-out what disadvantages would be suffered by the Muslims if they went along with Gandhi's advice. At this there was great outcry and people asked to address Gandhi as Mahatma and not Mr. Again he said Mr. Gandhi and again there was an outcry. After a few times of this happening, Jinnah refused to address the crowd. While leaving he said that he might have referred to Gandhi as Mahatma, but would not refer to others sitting on the stage with him as Mulana. Why was this? Jinnah knew what Gandhi's plan was, in which he was succeeding, but was disappointed at the Maulanas and their willful ignorance. The Khilafat movement, prior to it the Ismail Shaheed movement, supported by the British, earlier still the invitation, letter written, to Ahmed Shah Abdali , leading to his invasion? Once in power, the atrocities committed were common to both Hindu and Muslims: after these the Nizam-e-Mustafa movement.

We have started a course at this university, compulsory for computer science students, on learning. People continually enquire as to its purpose. I try to summarize the reasons: whether you are a scientist, trying to wrest nature's secret or acquiring an understanding of the physical world; a politician trying looking at implications of a policy; or any other discipline or objective, it is critical we understand the process at achieving these objectives. The underlying purposes may be entirely different, as for political opponents, but the methodology remains the same. If you do not understand what you are attempting to do, the results could be entirely converse to your expectations – willful ignorance. While a young student at the University of Engineering and Technology (UET), in the early 1970s, I remember it was still referred to West Pakistan UET. Meanwhile an Awami Leauge government was in place in East Pakistan. One day visiting my maternal grandfather's house in Model Town, I got there around 11:00 in the morning; I was told by my grandfather that he would take me to meet with the genteel crowd there. Incidentally this was type of people who mostly lived in the area, at that time, a few remain - the most refined of the genteel. Anyway, every Sunday there was brunch in which all the educated elite would

participate and excellent coffee was also served, or so I was told. We went to a house with spacious lawn; it was lovely weather to sit out. Chairs and other arrangements were tastefully and stylishly laid out. The crowds gathered there were in their finest white, starched, garments and enveloped in pleasant perfume. They were all conversing in chaste and pure Urdu. The level of discourse was enlightening. I was there for an hour but remained rather perplexed. The entire gathering was of a singular opinion. There was no conflict of opinions and all were in agreement and kept of repeating the same thing. That there was a non-Islamic, troublemaker, government imposed, which needed to be toppled. They saw the government as a plot of the Indian and Israeli states. I was stunned. On one hand their refinement, intellectual conversation and on the other their opinion. Most of the company comprised ofMohajirs.

Talking of Mohajirs, a few numbers may be in order, to allow you to understand who are friends are and who the enemy. Are our enemies those who were responsible for thousands of women becoming widows and their honours forsaken? During the partition of India and Pakistan, around 10 million people were displaced from their homes. Around one million died. Out of their sacrifices we acquired this beautiful country, truly beautiful. Do you know how many Muslims died in the aftermath of 9/11? The number is around five million. How many Muslim countries were destroyed? Through the sacrifice of one million, we managed to create a strong state, a nuclear state, at which no one can look askance. While what was the cause of five million deaths – willful ignorance. The majority died by the hands or on behest of other Muslims. How many were killed in the decade long Iran-Iraq conflict? Willful ignorance! In the 1965 India-Pakistan war how many people dies on both side: thousands perhaps? I do not want to delve into the reasons behind the war. While the Kargill conflict was entirely an illustration of willful ignorance, leading to five thousand casualties. The number of casualties outnumbered the combined casualties of the 65 and 71 conflicts. Out of the five thousand, two thousand fell prey to the weather. Who then is our worst enemy: perhaps it is the weather that we need to declare war upon. The numerous terrorist attacks in Pakistan were carried out by Muslims. The school-children killed in the Peshawar attack were at the hands of their coreligionists. So far these attacks have caused about 100,000 casualties. Who are these killers and product of which Madressas? Willful ignorance! Friends, sons and daughters, again I refrain from using brothers and sisters; come out of your shells. Start thinking, step out of this willful ignorance. Recognize who created this country, a strong country.

Jo chamn saja kay chalay gaye, jo watan bana kay chale gaye/ Those that adorned the garden and left, those that a country built and left.

Signing-off for UCP FM, Ashraf Iqabl bidding farewell to you!

# Chapter 12
# Strife: 01.040.2017

Greetings from Ashraf Iqbal, with another episode of 'Takrar' (strife), a monthly program developed for you. Please note my cell number, 0300-8477359 and my email id is ai.ashrafiqbal@gmail.com, for your feedback which is essential for us. Please feel free to share all your queries, thoughts and recommendations.

We begin today's program with our title. What does strife, imply? We will not delve into the dictionary meanings; you can always look this up yourselves, what we need to understand its essence. Where there is life there is strife: where there is strife there is life. There is only place where there is no strife, as far as we know, is the graveyard. Once life is extinguished, there will be no strife. Strife and life are then inexorably linked. Here we do not refer to actual physical conflict. Nor are we referring to nations at war; despite the fact that there is often strife between them. Apart from strife between nations, humans, there is also strife within a person: an important part of constitutional makeup which determines our direction in life. It teaches you the distinction between good and evil. A fundamental difference between humans and animals is thoughtful versus instinctual behavior. A hungry animal pouncing on prey will not think twice, nor argue with himself. What distinguishes human beings is the capacity to argue with oneself. Should I undertake a particular task? Is it becoming to me? Should I take up a certain job? Will it allow for service to the nation? Is my sole purpose on this earth accumulation of wealth? All these questions create conflict in your mind. Out of this conflict arises strife within you. It is distinct possibility that you can stifle this internal dialogue. What does this lead to? As you aware, the current prevalence of terrorism and violence in our society is directly correlated to this. In creating a suicide bomber the first thing you do is not to arm him or provide a suicide-vest, rather you have to get him agree to sacrifice his life and those of innocent men, women and children. To do this the first thing you need to do is to switch of his internal dialogue – strife. Once this is stilled he is yours to command. The ability to distinguish between good and evil, the capacity for mercy, concern of sin or retribution will all be eliminated. If there is strife little is left of person's humanity and ultimately life. To eliminate this and other evils in our society we need to encourage strife: it is the sole solution.

When a child is born, despite its infancy there is internal strife within him. Maybe you have noticed children learning to walk, between falling and walking, the presence of strife is quite clear. A child upon seeing a black cat for the first time is not quite sure what to make of it. Yet, all the information including the colour, which he cannot distinguish at this time, is stored in his memory: a concept is created. Later, upon seeing a white cat strife arises in his mind. Is it the same cat that I first saw? Despite being very similar there are differences. This strife sets him on the path of learning. To be able to learn anything strife is the first conditionality. Once he is able to walk outside and sees the rising sun for the first time

Khol aankh zami dekh, falak dekh, fiza dekh

Mashrik say ubhartay huway suraj ko zara dekh

One is quite sure that he does not conceptually grasp what it is. This leads to strife in his mind which forms the bases of his questioning his parents about the natural phenomena around him. This is his first encounter with the realization that he is separate and alive. The questions multiply and he continues to gathers information through his parents and siblings. Why is there wind? Why are there winters and summers? Why the day and night? With these the foundations of strife are laid. At this point, the onus is on the parents to help him think and assist him in resolving this conflict. The other option is to stifle this strife.

Dear audience have you happened to envision strife? Have you witnessed a classroom at a school or university? What is the obvious thing which you have noted? Peeking through a window into an expensive private school, do you expect to observe strife? Is learning taking place? Or will you only hear silence? In this silence there will be no strife externally or internally, without which no learning can take place. Comprehending and making comprehensible can only take place within the domain of strife. How sad and unfortunate for us that we equate a silent classroom with a good classroom. We take a classroom of 40-50 children, who are full of strife and silence them. By silencing them we also silence their ability to think – still their strife. The question then arises that if we allow this strife to take place, what would the shape of a classroom? It would become a place where discussion would blossom. Perhaps there maybe conflict but within the confines of civilized beahviour. Strife contains an important element of conflict but it is not necessary that it ends in violence. Reconciliation is another potential outcome. Not only reconciliation within the mind and between individuals but even between nations.

What would you assume to be the nature of strife in a scientific mind? What is the difference between an average person and a scientist? Here we are not referring to his function, i.e. what theories he postulates. Rather, what is the particular quality which distinguished a scientist from an average person? What stops me from being a scientist or for that matter you? More importantly how does one become a scientist? It can only be done if you allow strife to germinate in your mind. The apple landing of Newton's head, while sitting under an apple tree, was the cause for strife in his mind. He had also observed the moon gradually setting or sinking. The apple also fell towards the ground. Both these observations caused him to wonder was the similarity between the two events. It is the same strife that takes place in a child's mind when observing a black cat and then a white cat. It is the same strife when a child asks his parents why there is winter and summer or for that matter day and night. What is this commonly perceived face of the old man in the moon? It is this cognitive strife that makes a scientist. Galileo's head was full of such conflicting ideas. These are also known as 'thought experiments'. It can be said that science began with these 'thought experiments'. It allows you conduct experiments which cannot be otherwise conducted in the real/physical world. A strife which was particularly troublesome for Galileo was the comparative time between two objects o, one heavy and light, if they were dropped from top of a building. Would the heavy land first or not? Now, why could not this experiment be conducted in the real world? Galileo had assumed that there would be no air-friction affecting the flight of the two objects. Creating a vacuum where no friction was present was impossible at that time. These days the technology is present and you can see the same experiment that scientists from NASA,

have replicated on YouTube. For Galileo creating a vacuum chamber was an impossibility; forcing him to resort to the thought experiment. You could expect that Galileo would be able to resolve this strife through dialogue with another scientist, but in those days there were few with his intellectual capacity. In his thought experiment he envisioned dropping two objects, one heavy and one light, from a very high building, at the same time. Let us assume the objects are a heavy metal ball and perhaps a crow's feather. Our natural expectation would be for the metal ball to reach the ground first, while the feather slowly flutters to the ground. This would be so but what if there was no air-friction, would they land together? This is the point where strife comes in and the thinking process begins. Assuming the heavy object arrives first we tie it to the feather. This would imply that theoretically the light object would slow down the heavy object. This leads to another point of strife, leading to another thought experiment. The two objects are bundled together, while earlier there was some distance between the two being tied together with a rope. Should this make a difference? According to our earlier logic the light object was slowing the decent of the heavy object. Together the compounded weight of the two objects becomes greater, implying they should fall to the ground much faster. This entirely refutes our earlier assumption of the heavy object falling faster than the lighter one. From this you can observe the strife created in Galileo's mind and how it lead to innovative thinking; arriving at a counterintuitive conclusion entirely contrary to our expectations. The cognitive strife led to its own reconciliation – in other words learning.

If we talk of politics what is the role of strife? A rather important one, which I narrate through a incident. An absence of strife can even lead to the utter destruction of nations. In the month of April a call is received by Gerneral Manekshaw, Chief of Staff Indian Army, from the Prime Minister's house at around 4:00 pm. The powerful Prime Minister, Indra Ghandi, enquired as to what he was doing. He told her he was having tea. She told him to come to her office right away, where she would serve him tea. On arriving at the Prime Minister's house he finds Indra Gandhi waiting for him in the lawn, in a colourful sari. He is asked to join her and tea is brought for him. She tells him that due to the ongoing military operation in East Pakistan, a large number of refugees are pouring into various Indian states, creating great difficulties. She told him that something needed to be done. Now you can conjuncture on whether this was fact or propaganda but we will leave that aside. The general replied he was aware of the situation. Indra Gandhi again reiterated the need for immediate action. He was further told that he had 48 hours before intervening in East Pakistan: a significant decision which had great implications for Pakistan. Manekshaw replied "Madam Prime Minister that means war." The PM replied that she did not know what it meant but it had to be done immediately. Upon this Manekshaw tired arguing with her but he threatened with dismissal and told that tomorrow there would be a cabinet meeting in which this decision would be announced. After the meeting he would only have 24 hours to mobilize his army.

The next day the scheduled cabinet meeting took place with Manekshaw participating. Different ministers spoke including those whose states faced with the refugee influx. The consensus was that something needed to done immediately and military intervention was called for. Despite the unanimous agreement, Maneksahw said he had some reservations. At this he was told by the prime minister that: "did he realize the consequences of having reservations at this juncture." Manekshaw replied he was quite aware of the consequences and in that case he would probably have to resign.

With this he handed over his resignation to the prime minister. At this Indra Gandhi asked him to join her in her office, along with the Defense Minster, for a private discussion. What was the cause of this strife for the General? Was it the fact that he had sworn loyalty to Indian constitution in safeguarding India's interests? Indra Gandhi enquired of him the reason for this dissension; was it that he was afraid of General on the other side. He replied was an empathetic "not at all." In fact he said he had some scores to settle with his former roommate. What was the matter then, enquired the PM. He said that it was the month of April and currently we only have around 15 tanks which are operational. The rest are broken down. He said he had put up multiple budgetary requests to Defense Minster, who is sitting here, but no action was taken. She told him it would be done immediately. He still hesitated and told the PM that did she realize that the monsoon season begins in June and is especially heavy in East Pakistan? This would mean that the entire armored division would be rendered useless. This startled Indra Gandhi. Here strife enters into the equation. At this juncture Manekshaw interjected with a strange statement. He said that by June the Himalayan pathway would be open. Indra Gandhi enquired what does this have to do with East Pakistan. Manekshaw, with a smile, told the prime minister that she was intelligent enough to know this. This put the prime minister in a bind and she started thinking, to buy time she enquired when the General could mobilize his army. He told her he would commence his operations in October and within three months he would handover East Pakistan in a platter to her. At Indra Gandhi told him she looks forward to it. Due to this strife India managed to win, what could have been a losing war?

Prior to this when Nehru was the prime minister, China attacked India in the early 60s. This was in an area where freezing temperatures were common. Nehru immediately called for his army chief and told him to repulse this attack. The chief lacking the strength of character refused to tell the prime minster the simple fact that his army did not even have winter uniforms to operate in conflict-zone. There was no strife or disagreement. Despite their unpreparedness India committed its troops in the North. The results I believe require no narrating. Strife then also exists between nations. It is not necessary that this end up in wars but can also lead to reconciliation. Strife also exists within you. During particularly troublesome moments you have to make decisions which can have far reaching consequences for yourself, your family and even the nation. This require resolving the strife between advantages and disadvantages utilizing your brains.

Aqal hai mahva tamasha lab-e-bam abhi.

Today we talked of strife: an inherent part of a child even before he is able to communicate; strife when he starts questioning his parents. This is the commencement of developing an individual identity and consequently life. I exist because I can think. I exist because there is strife within me. If there is no strife there is no life. It is a continual and integral part of our lives. Remain in strife but force no one to your viewpoint. Use it as tool for reconciliation. The onus is on you to make life better for you and others. Make strife a part of your thinking process whether a student, government official or a politicians. Especially politicians who need to engage in strife driven discussion and not hollow sloganeering. **Strife for Life!**

# Chapter 13

# The Glass is Broken

Muslim High School 1966, a time of 10th standard exams: before the paper, as advised by elders, I requested our old servant; perhaps servant is not appropriate, old friend, Khuda Buksh, to go see where the exam center was. I did not want to waste any time before the exams in locating the center. I wanted to be there an hour or at least half an hour before the exam. I enquired if he wanted me to go along with him. He told me that there was no need and he would mange on his own. He asked to prepare for my exams, while he would go see the center on his bicycle. I told him that it was probably too far by cycle and he should instead take a 'tanga' (horse carriage). I also told him to make sure of the directions, since I had not even heard of the school that was chosen as the exam center. This is how exam centers were chosen for private schools, while government school students took their exams in their own schools.

In the morning I got ready for my first paper which was mathematics; a subject in which, I was quite sure, I would achieve full-marks. It was summer and Multan's scorching heat; in which the days sizzle, while evenings are relatively mild. Often there would be no electricity and I would make for the 'Neem' (Azadirachta indica) tree, in our house at 'Pul Mauj Darya', to study. Even during the days it was tolerable. Was it that it was milder than or perhaps I did not feel the heat? In any case, it was early morning and a pleasant breeze was blowing when I took a rickshaw for the exam. Khuda Buksh was with me and upon enquiry as to having the correct directions; he assured me that there was nothing to worry about. We reached the place which he had scouted earlier, but there was no school. Troubled, I told Khuda Buksh that he should have taken me with him, since he sometimes forgot due to his age. But he was adamant that this where the school was. We made a u-turn and searched for while but no school was to be found. By this time I was quite anxious, since it has been a habit with me to arrive well in time for any appointment. This being a key exams and the first paper, with only 20 minutes left or so, I was quite worried. In those there were no mobile phones to call someone. Anyway, I told the rickshaw driver to stop in front a small tea-stall. I got down myself to enquire, when my gaze fell upon an old man in a long white starched 'kurta' and 'shalwar', with thick black glasses. Enquiring as to whereabouts of the school, he told me that it was right in front of me. Turning I saw that it was where the old man had said. I asked Khuda Buksh, why he had not recognized the school. What had happened to him; the school did not just materialize? Meanwhile, my pen slipped from my hand. The old man bent down and picked-up the pen to hand it back to me. While doing this I caught a glimpse of his eyes, which were till then masked by his thick black glasses. The eyes appeared dull and lifeless. He took the cloth draped over his shoulder, as is the custom with many locals in Multan, especially those from villages and wiped my pen with it prior to handing it back to me. With an enigmatic smile he enquired if I would not take breakfast with him? From his manner it appeared that we were old acquaintances. Being in a desperate hurry to get to my exams, I told Khuda Buksh to hurry and politely declined the old man's offer. At this he again smiled as if telling me that I would regret not accepting his offer. The entire sequence of events appeared strange to me: the old man's lifeless eyes, his attire, his demeanor, and the sudden

appearance of the school, my pen falling down and his invitation to breakfast. Having gotten into the rickshaw and heading to for the school, I suddenly realized something was not right and told Khuda Buksh to turn back. Khuda Buksh told me that we were getting late for the exam and needed to reach the exam center. Despite this I persisted that I wanted to see the old man. Again he told me not to waste my time. Yet, I insisted and having turned around we made our way back to the tea-shop. I looked all over for the old man but could not locate him. I enquired at the tea-shop about his whereabouts; surely they must have seen him. I was told that had not seen the old man. My mind was in a strange state and set upon locating the man. Khuda Buksh physically shook me and told me that there were only ten minutes left before the exams. It was as if I had woken-up from dream. I hurried to the exam center. Upon reaching it I saw my teacher, who stared at me and scolded me for making it to the exam with six minutes to spare: instead of the usual hour earlier which I claimed.

My exam went well, with me securing a 100% marks. I stood 15ht or so in ranking with the Punjab Board and granted a scholarship. I was among the fortunate who scored above the 85 percentile and could have relatively gained admission to Government College Lahore. The most vivid part of the entire experience is the memory of the old man, which I retain distinctly. Due to him I had almost missed my exam and if Khuda Buksh had not physically shaken me, I would have certainly missed my exam.

Moving ahead in time, I became a director or vice-chancellor of Namal University. Arriving there to take charge I was welcomed by most employees, who had gathered for the occasion, despite my earlier protests at this. I am not a believer in giving so much reverence to a director. Perhaps it would be more appropriate to gather to see him off. Unfortunately, it is the way of the world that arrivals and not departures are hailed. Anyway, this is a story of Mianwalli, Namal and a lake. The lake was located in the university ground. It was huge lake and had its own unique sound. Ringed by mountains it appeared to be magical. Time flew and I was being served a notice of termination. While leaving the place and packing my bags in the car, I was hugged by the security guard to bid me farewell. Perhaps his supervisor was not watching. Having gotten into the car and driving a short distance I saw an old gardener with whom I had many discussions. He was crossing the road, running through the university. I immediately stopped the car and got down to bid farewell to him. That day he was wearing thick dark glasses. His 'khurpa' (trowel) slipped from his hand. As he was bending down to retrieve it, I saw his lifeless eyes. My mind raced back 30 to 40 years and I recalled the old man in Multan. The gardener took my hand in both of his, when suddenly a whistle went off. It was the supervisor, warning him not to get to friendly with the outgoing director. The old man, adjusting his thick black glasses, said that a job was at stake and bid me in keep of God. I was not quite sure what was happening but it seemed I had travelled back in time. Seeing me standing on the road, for ten minutes or so, my driver enquired if I was okay. He told me sit in the car and much like Khuda Buksh in Multan, shook me out of my reverie. I sat in the rear seat of the car, as we drove away. Yet, in my mind I was again gazing at those lifeless eyes and my only regret that I only saw then when leaving the university, with no hope of returning in the immediate future. His parting statement that "job was stake,' was confusing: what job was he referring to, mine or his? Was he seeking a job? Was he human? And what was he doing there in any case? How did he suddenly appear? It is not that we had not met earlier or talked, but as far I

remember his eyes were not lifeless. What was going on? I went to sleep in the back of the car, but remain disturbed due to strange dreams.

Moving further ahead in time to our house in Lahore, located near the airport. Here I used to tell my grandchildren; Ali, Adil, Mano and her little sister, a story: that any first strike would be at the airport! I remember that evening clearly when our family along with other area resident were asked to vacate our houses. My family left but I had to stay behind to look after my mother and aunt, who were not well. My saving grace was that perhaps turning into a suicide bomber against the enemy I would be remembered. Perhaps seeking my life's purpose in destruction – kun faya kun( be and it was)! My mother and aunt insisted that I too leave but despite telling that I was leaving I remained behind. At night I would quietly slip into the house. While trying to sleep from the upper –story bedroom window I saw 'that in Metro', a huge supermarket near our house, looting had begun. There was no semblance of law and order and people were plundering at will. Later the store was set on fire.

Our army having withdrawn to a safe distance implied that the path for the enemy was now quite clear. There were very few residents left in Eden Avenue Extension. The night was a strange night! In the morning an unexpected wind storm arose. It was now officially announced that the enemy army would now formally enter Lahore and pass in front of Defense Road. The remaining population was expected to gather on roadsides and greet the incoming army and pay obeisance to them, especially when the commanders drive-by. It was after much wait, struggle and bloodshed the enemy was realizing their goal of entering the heart of Lahore. Our army had retreated very far. The waiting crowd on the roadside finally saw their convoy make its way past; jeeps, armoured carriers and tanks. The army personnel were bedecked in white uniforms and from the vehicle flew black flags containing the 'kalam' (Muslim religious protestation). As the convoy moved past people bowed down, but I refused; thinking what is the most that they can do to me, apart from taking my life. At my refusal the gathered crowd started to stare at me. At that moment the commander in chief's car came into view and most of the crowd fell to their knees. I remained standing. As the car moved past me it halted and two white unformed soldiers jumped out. They made their way towards me as the crowd gazed with averted eyes, thinking that I would be punished for my insolence. Perhaps I too was waiting for punishment. As they drew-up to me I attempted to look into their eyes, but these were hidden by thick dark glasses. They lightly grabbed both my arms and told me that I was being called inside for a meeting. It appeared a strange way to punish me, something to which I was looking forward to. They took me inside, not forcefully but firmly. I saw that the old man sitting there, with his glasses lowered slightly, to allow me to clearly see his lifeless eyes, waiting. In a very familiar manner he enquired of me whether I knew him. I told him I knew him very well but since he was my enemy I could not be friends with him, despite whatever punishment they could devise. Apart for inability to be friends I was very curious about the old man – who he was. Before my matriculation exams, after my dismissal from Nimal, it was 15 or so years since I had last seen him. Now meeting him face-to-face perhaps we would be able to talk and I could figure-out who he really was. He told me that I could do this later but before that he had some good news to share. He told me that he would arrange to meet with my beloved, with whom I had not met for ages. Naturally, I was shocked. Seeing my surprise he told me that I had heard correctly. Would I not want to visit someone who I loved deeply? I enquired as to why he was granting me this

favour. He said that I had just called him an enemy, perhaps this would not mend our ties but it may have some utility for me too. He went on to say that forgetting his interest, would it not be something that I desire deeply: I should at least appear grateful to him for fulfilling my dream. At this I forgot everything including the fall of Lahore. Where my family had gone to I did not know. My infirm mother and aunt at home I too forgot. Her remembrance came back and I was imagining her face. Next I felt a strange sensation, as if we were flying through the air in a car. We arrived at her house, there was car parked outside. It was morning and perhaps her children were getting ready for school? The driver has the engine running. Our car, invisible to all, landed in-between her car and the house, so that we could observe whoever came out of the house. Suddenly her children with their school-bags in tow came out of the house. One girl sat in the car followed by another, who came out of the car having forgotten her water-bottle. The one waiting was shouting that they would be late for school. Few moments later the mother stepped out of the house. The same beautiful face and the scattered tresses, perhaps because of having been roused from sleep. How could I forget? I was suddenly in heaven. One look at her I kept looking. Her laughter that tinkled in my dreams and imagination I remembered. Her beautiful countenance I remembered. Her wild tresses her lovely eyes all remembered. She was coming out with her child and a water bottle. I got down and looked at her but perhaps she could not see me - her beautiful laughter, her chiming voice, the velvety hug in her arms. The children's car was leaving for school. She after bidding the children farewell, turned to back into the house. At this moment I could not contain myself any longer. I moved closer and grasped her hand. In an instant the space and time continuum collapsed: its fragments scattered and the dividing glass shattered. A glass sliver lodged in my eye, from which I could no longer see. Apparently, I fainted on regaining consciousness I realized we were flying back in the car, towards the Eden Avenue Extension. There was blood dripping from one of my eyes: tears of blood. I had seen her, I had loved her and even held her hand – but to what avail. Turning around I saw the old man, chewing the glass fragments of time and space, which he had gathered together. He appeared in a great hurry to finish his meal. I enquired of him, "what was going on?" He reply was that he was hoping that both my eyes would become sightless, instead of just the one, so that I could be like him –"but perhaps this was not acceptable to God, who did not want you undergo the trials and suffering faced by me." I asked him what he was eating. He told me that these were the fragments of time and space. It was precisely because of this that he was free from the confines of these dimensions. On further enquiry he told me he lived beyond time and was not bound by it: "When we first met, you were only 17 or 18; the next time we met you were past 50; yet I remain the same." "You are now past 60 and God has not chosen to put you through my ordeal by putting time your hands." Again I pressed him as to why he was eating the glass. He said, "To be free from the confines of time you have to gobble-up it fragments." "You must have by now also realized why I brought you here?" "If I had asked anyone else to take a trip across the time and space bubble, he would not able to." "It was only your love's intensity the shattered the glass of separation and made the journey possible – I salute you love." Upon waking-up I realized I was in room and my aunt was chiding me for being asleep for so long and unnecessarily worrying her. I was back in the world. There were no newspapers since Lahore has slipped from our grasp. We had been defeated. The tastes of both defeat and victory lingered in my mouth. My eye was still shedding blood. I managed to hide this from my aunt behind thick dark glasses.

# Chapter 14
# The Old Man!

The story of Mohammad Muqueem: I used to be farmer but suffered financial loss: I was farming cotton but that is very prone to pests. I was a tenant farmer and did not own the land. As the children became older and started attending school, our expenditure increased. Our limited means became severely challenged. My wife remains ill and in these trying times I work here. My children are currently studying at a government school and have just sat for their tenth standard exams. Our household expenditure is determined by my salary, which on the average is around Rs.12,000.

Earlier I used to work in Karachi, at the 'Shaan' spice manufacturing factory, where I only received Rs.9,000 as compensation. It is difficult to survive with a family on the salary I receive. The fact that my children are in government schools with nominal fees, helps. For the daughter I have arranged transportation, while the son makes his own way, to school and tuitions.

AI – You can always bring the children to the university for tuition, which would not cost anything.

MM- It would not be possible since they live in the village. I have recently come to the city and share accommodations with people from my village, Pakpatan. My personal expenditure, amount to Rs.100 to Rs.150 on a daily basis.

AI – Do you like this country?

MM – Yes, very much; it is my country. It is a free country and there are no troubles for us.

AI – I am asking you this since apparently the so called educated class, whenever they have an opportunity to meet or socialize, only have one topic to discuss: the running down of their country.

MM – No I do not agree.

AI – What has the country given you?

MM – It is not the country but the successive governments that have been traitors to this country.

AI – How are they traitors?

MM – The culture of loot is prevalent. A commodity priced at Rs.100 is sold for Rs.150 and so on; making them unaffordable for the common man.

AI – But there is inflation in India, American and other countries?

MM – Perhaps, but not like here; where there is a spike in prices after every month.

AI – What do you children want to do, after their studies?

MM – They want to go to medical upon completion of their BSc.

AI – What next?

MM – They have left it to us. If we can afford their further studies they will do so, otherwise look for employment.

AI – Suppose they finish their studies and become and engineer or a doctor, what would they want to do. Leave Pakistan and settle abroad?

MM – No, they will stay here.

AI – Why, when everyone including our former COAS has left the country for greener pastures?

MM - The West is not acceptable due to their religious persuasions – infidel enemy states.

AI – What about Saudi Arabia?

MM – That is a better option. In any case we cannot say anything bad about it. It is the country of our Prophet.

AI – That is more accurate. Despite its drawback we cannot slander it. Yet what about Lahore: the city of 'Data Sahib' (Ali Hajveri), about which you have no reservations criticizing, in terms of being run by traitorous governments? Is not the Saudi government corrupt?

MM – No idea, since do not listen to the news or won a television. I am too busy surviving to indulge in political debate.

Ai – True, but you must have some inkling? The state of the poor there is, if not comparable, worse. In any case so you like the country and your children would remain here? Perhaps they might opt for Saudi Arabia? Would they go there to work or on religious pilgrimage?

MM – Preferably, religious pilgrimage. This is their country and they will stay here.

AI – According to you understanding, what does it mean to be a Pakistani? Is being a Pakistani different from say being an Iranian? What is the difference?

MM – *No reply!*

AI – Do you feel proud to be a Pakistani? Why?

MM – Yes, we are happy being Pakistanis?

AI – Why do you think there is so much inequity in income distribution, with so many being so rich, while other very poor?

MM – It is part of God's plan.

AI – So you cannot really blame the government.

MM – God has not ordained that you cheat.

AI – That is correct but based on your logic the fault lies in the stars.

MM – It is God's will, in what circumstances he keeps his individual creation. We should be grateful under all circumstances.

AI – Can we not change the system?

MM – No, only God can do so. We are helpless.

AI – Do you not know of an example where they have set out to end inequity and have succeeded?

MM – No!

AI – What if I tell you of a country that managed to eliminate these differences? What would be your opinion?

MM – Must be wonderful?

AI – So why cannot we do so?

MM – It is upto the government if they want do so.

AI – So, the government can bring about this change? Why does not government do so?

MM – What can a poor man say or do? Who would listen to him?

JS – You had earlier mentioned that we were all part of the divine plan and our circumstances ordained. Yet, you also mentioned that you are educating your children. Once they have done so successfully, would not your circumstances also change for the better?

MM – It is a matter fate – 'kismet'.

JS – According to your logic no one, poor or rich, knows when their last breath will be. That aside, you are making an effort.

MM – The reason for educating the children is that later they would hold no grudge, in terms of not being educated.

AI – Have you ever felt resentment against all the people coming to the university in large cars?

MM – Never!

AI – Why?

MM – Their circumstances are by the will of God. He is the Bestower!

AI – So God would have to change things?

MM – (*Amused*) how will he manage this?

AI – Pray to him! That he changes.

MM – No, no! How can we do that, only he can change things? We can only seek his grace and mercy.

AI – But is he benevolent?

MM – Yes! He does but we remain in sin by refusing to obey.

AI – As you mentioned you have no vices. What do we not obey?

MM – We do comply with all his commandments.

AI – For example?

MM – We do not pray regularly.

AI – So you are saying that all those wealthy people arriving in big cars all pray?

MM – Only God knows, what can I say?

AI – I know for a fact that they do not? Still they own a massive house, a car and numerous servants. What is going on?

MM – There is nothing I can say. It is as God has ordered it. He gives and he takes!

AI – Do you attend your Friday prayers? Do you also listen to sermon? Can you tell me something which particularly struck you during the last few sermons that you retain?

MM – What special things would a sermon contain?

AI – Does it contain anything which impresses you? What if they were to play songs instead?

MM – That would be a sin!

AI – But what difference does it make if you are indifferent the two, apart from the fact that one, you claim, is a sin and the other a virtue.

MM – Yes!

Girl – Do you not feel like blaming someone for your circumstances? Who is responsible?

MM – Whatever God bestows it is his mercy.

JS – It is true to an extent.

AI – What is the point of being almighty, if not able to deliver? Cannot an individual create more change in a person's life?

JS – If he is authorized to do so by God.

Girl – Narrates an anecdote: Someone enquired to what extent do I have control over fate and to what extent God? He was asked to lift one leg, which he did with ease. Upon being asked to lift the second leg he was unable to do so. This is how fate has been allocated.

JS – Reverting to farming: Was it that you did not put in the work?

MM – No there was a persisting problem with pests.

JS – Was there no pesticides /sprays?

MM – This was done but without God's will it did not matter.

AI – This would imply that there is no need for pesticides since its God's will.

JS – Not necessarily, since the two are not mutually exclusive.

AI –There are some individuals, societies and countries which do not believe in God. Who is responsible for their sustenance?

MM/JS – God provides for them too.

AI – But they do not believe.

MM/JS – That does not matter to God. He provides for all his creation.

AI – Why do then some die of hunger?

MM – It is his will – those that survive those that do not.

AI – Why is that if we visit the tomb of 'Data Sahib' (Ali Hajveri), we can get a meal? Any amazing fact since time and numbers do not matter, and it is self sustainable mechanism: is this not a miracle – the hand of God?

AI – Does this then hold for the house of God?

JS – Yes it doe, especially during Ramazan. All you need to do is wish for it and it will be provided.

AI – How do the two differ then?

JS – Infact you would also find such places in the West, where people are fed on a charitable basis.

AI – Data Sahib is unique in the sense that this has been continuing for centuries will continue so.

JS – There are many other such places in Lahore. Take for instance Bahria's 'dastarkhawan' (tablecloth spread formeals).

AI – You are equating him with Data Shaib?

JS – No! Where I worked earlier there was a factory across the road, where you could get three meals a day absolutely free and it was open to all. There many other such places in that industrial estate. It is the same for Gourmet Bakery chain, where free food is distributed. A system of charitable food which begins at the steps of Data Sahib!

**Summary points:** *The difference between the educated classes and the poor in terms of loyalty and love for the country. Those who have been given the most the least and those with the least the most!*