STATEMENT OF TEACHING PHILOSOPHY   Adri Jovin John Joseph, *Ph.D.*

It was my passion to teach and enlighten people with my knowledge, ever since the days I was pursuing my final years of the undergraduate program. It was the inward satisfaction which I yielded when I used to teach my peer groups, which made me dedicate my life for teaching. As I completed my post-graduation, the exposure I gained towards technological aspects and my passion towards teaching blended to provide me with a platform in the academia. With experience and feedback, I began to practice my own style of teaching and learnt how to enhance the same.

Learning is any relatively permanent change in the behaviour, thoughts or feelings of an organism that results from experience.

Teaching, in my view must be a process which helps a student to experience the change and transform his/her life to be prospective. For a student pursuing his studies with computers, it is required to design a mental map to logically connect the components and the concepts, whichever they hear from me. In this perspective, if a teacher could define the connection between the components and the concepts appropriately, it will enhance the way of learning. I confidently believe that it is through a hands-on and experiential mode of learning, a student could impregnate the concepts deep inside his/her mind. It was during an invited guest lecture on 'Functions in Python', where I was asked to train a set of teachers who were about to handle the course in the fore-coming semester, I felt the real success of experiential learning. I started teaching the concepts using Azure Notebooks (a cloud-based version of Jupyter Notebooks), where I designed an interactive book whose clone was shared amidst the teachers. For each concept, the faculty had an opportunity to interact with the system as a result of which they got a deeper understanding of the programming concepts. It Is more important that a student requires a clear understanding of the concept rather than memorizing the definition pertaining to the concept.

My philosophy of teaching is a blend of the classical as well as modern teaching strategies. The students will be insisted to take notes of the lecture using hand. Though there are a number of modern teaching mechanisms which does not require a student to take hand-written notes, I strongly believe that the taking of hand-written notes help the student to perceive the concepts deeper. This will help the student to further apply his own cognitive level to build things on his own. Recent research works have in fact produced supportive arguments to this school of thought. I believe in concept to idea, idea to product strategy. An engineering graduate must be able to conceptualize new ideas which can further be developed into prospective products for the betterment of the society.

My style of blending does not involve revealing all the concepts. Rather, it inculcates a critical reasoning culture amidst the students which is further used to develop the concept in class room teaching.

The best teacher inspires!

I strongly believe that teaching is not just a profession rather it is an art that inspires student. Being an inspiration is not a simple task. Amidst the responsibilities I hold, my life itself should become a lesson for the students.

Teaching also involves the balance between the way things are taught and how they are perceived by the students. In my view, there should be a continuous feedback mechanism that helps to maintain this balance. In my experience, I have seen different sets of students exhibiting different learning capabilities. A good teacher must be able to cater the needs of the students having different calibre to meet the objectives and achieve the outcomes of the course. Sometimes, it requires an intensive and individual care, so that the student can help the teacher attain a win-win condition. It is also important to establish a high expectation and support for students which encourages the learning amidst students, in turn leads to success. I ensure that the students are aware of the expected learning

outcomes and the assessment components which would lead them towards the outcomes. The support rendered for slow-learners may be conduct of clinical classes and out-of-the-class discussion on assignments and other assessment components, except quiz.

Not every course require the same methodology of teaching to be followed. I adopt myself to the methodology that suits the course. When I was teaching Cryptography, I had to use the black board a lot, since it involved a number of notations and a number of calculations. When I discuss each and every algorithm step-by-step I had to update the intermediary results often, for which the chalk-and-talk provided a convenient environment.

When I was handling Computer Graphics, though is a course somewhat algorithmic in nature similar to that of Cryptography, my experience was different. Initially most students were terrified seeing the algorithms related to fractals. So, I had to take a different call to make the students feel the course comfortable. I had to inspire them with applications such as Barnsley's fern which developed an interest among them to solve the further problems in the laboratory out of their own interest.

In case of Network Security, I never had the necessity to use the board, rather I had to concentrate on live experience using Network Devices and sometimes had to use a projector to demonstrate the different types of attacks. When it was the case of Human Computer Interaction, I had to pick in hand quite a number of interactive websites and mobile applications, discuss the pros and cons in terms of design principles. The major challenge was to make the students understand that the User Experience will have a great impact in the market despite the functionality provided by the applications in a commercial perspective.

I also believe that my ability to connect real-time examples analogous to the concepts will help students to understand the concepts in a better way. I still remember the example which I elucidated to explain the conditions resulting in a deadlock, while I was handling the course 'Operating Systems' for the undergraduate students in 2012. The analogy was a 'T' junction road where the junction is the critical section and two vehicles facing one another in the smaller edges represent the processes. Both the vehicles need to move towards the longer edge. If a vehicle is parked over the junction for a long time, the other vehicle will starve. Hence there should be continuous movement. No two vehicles can share the junction, so they are mutually exclusive. And when one vehicle is crossing the junction, the other cannot interfere in process, which is termed non-pre-emption. I have heard student reminding me of this example even after 5 years.