Mobility, Flexibility and Compatibility – A Strategy of Restructuring for Future Engineering Education

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Abstract — *Like any other industry or business sectors, it is part of nature, but also hazard to observe downturn/declining of one or few majors in engineering education offers. Lack of potential interests and weakening of student recruiting are typical ind ications. This could happen for any particular university or college, one region or even for one country. The consequences will be however, not only drastic and negative for one particular university or college, but also for national industry or business s ectors if continued.*

It is a hard competition to attract potential engineering students nowadays. Though the survival of the fittest was a classical philosophy, it is still applied for student recruiting situation. Restructuring of engineering education offers is one key issue for many institutions. There is often a question of how to restructure the education offers in order to be the fittest. Learning from the historical lessons of industry, business or even military battles, the successful strategy see ms to focus on mobility, flexibility and compatibility.

There are many cases to prove the advantages of mobility, flexibility and compatibility for industry, business or even military competitions: The successful stories of automobile development over rai lway; semi -conduct over vacuum tube; airplane over airship; quality -circle/teamwork over purely functional s ections; cavalry over infantry or submarine over battleships, just to mention few. Perhaps, future engineering education shall bring in mobility, fl exibility and compatibility as a philosophy or a strategic restructuring for changes ?

This paper presents a subjective description and few none-empirical definitions of mobility, flexibility and compatibility for restructuring of engineering education. A roughly strategic approach with possibly technical solutions for such restructuring is drafted. The potential benefits and consequences are discussed. Furthermore, the discussion also addresses possible impact during the implementing process, such as maint aining/improving quality of teaching, reducing of cost/budget or providing accessibility for further continual education. This strategic approach is perhaps still in a pre -matured stage yet, but there are definitely openings for further debates or experime nts. Like any other industry or business sectors, it is time for engineering education to restructuring and it might be a good idea to learn some successful histories from other sectors.

Index Terms — *Restructuring of engineering education, mobility, fl exibility, compatibility a philosophy and a strategic approach .*