

Review of: "Why Engineering Education is Losing Charm among Students in India? A Discussion"

Merve Şerifoğlu

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The author attempts to provide a general picture regarding loss of charm in engineering education and presents suggestions for gaining momentum in the field. Generally, the paper is well designed and provides a framework for evolving of engineering education in India. However, I have some comments:

1-The first thing that caught my attention is the title "Engineering education". Based on ISCED (International Standard Classification of Education) classification, engineering includes different sub-fields such as mechanic, electronic, construction etc. When I read the paper, it is understood that the topic is actually related to ICT engineering education. Accordingly, the title should be changed.

2-In the background section, the author only mentions Solow Model as the theory basis. Following Solow Model, Endogenous growth models were developed to explain technology which is considered as a main determinant of economic growth. One of these models, Lucas (1988), emphasized on human capital as engine of economic growth. Lucas (1988) and other growth models should be added to the background section to support the impact of education/engineering education.

3-For period before the 1990s, the author reports an increase in the annual growth rate of export to 7.6 percent and 14.4 percent respectively during 1988–89 to 1990–91. What percentage of this ratio is due to technology? Besides, does the number of students in Table 1 show the number of enrolments or graduate students? Also, is the number of students related to ICT students or other engineering education (civil engineering etc)?

4-For 1990-2014 period, the quality of education has declined due to increase the number of private school and unemployment rate has increased. To reach this conclusion, a distinction should be made between private and public school and employment data for students from these institutions should be provided.

5-In the literature, different indicators are used as a determinant of education: attainment rate, enrolment, graduate number etc. Is the number of enrolled students a reliable indicator? Does it show accurately reflect the effect of engineering education?

Furthermore, the paper reports that people in India choose science and medical education instead of engineering education. The reasons of these are unemployment, high cost of engineering education. I wonder if the cost of medical education is lower than engineering education. Another issue regarding medical education is related to which sub-field is preferred by students, such as nursing or becoming a doctor? The segregation of sub-field should be made clear.

To better assess the situation, it would be beneficial to segregate the data by university, master and phd degree in engineering education and added the employment data corresponding to each level. Besides, the author should also consider segregating the data by gender. For example, OECD (2022) reports that “on average across OECD countries, women are under-represented in science, technology, engineering and mathematics (STEM) fields of study and over-represented in the fields of health and welfare and education across all tertiary levels”. Considering difference in the choice of field of study between male and female, the main reason could be attributed to either the students themselves or the choice of employers.

OECD (2020) also shows that “VET is an important part of upper secondary education in many OECD countries, which on average across OECD countries, 33% of those graduating from upper secondary vocational programmes in 2018 earned a qualification in the broad field of engineering, manufacturing and construction”. Based on this idea, it can be said that an upper secondary degree enables the students to participate in the labour market at an earlier age. Including these types of analyses in the paper could be informative

Lastly, the first table (Table 1) shows the total number of colleges including four regions of India. The data should be provided for each region of India. This way, it can be determined which regions of India have experienced a loss the charm of engineering education.