

### In This Issue

ITEMS	PAGE
Articles	
India Needs Specialized Railway Engineers	3
Small Size of the State and Stride in Education: An Insight from Goa	5
NCTE Framework 2014 and a Model Syllabus of Peace Education for Pre Service Teacher Education	7
Social Skills Training: A Door Way for Sustainable Development	11
Training of Teacher Educators: A Sick Child in Indian Policy of Education	16
Convocation	
Mody University, Laxmangara, Rajasthan	21
Campus News	25
Theses of the Month (Science & Technology)	31
Advertisement	34

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## India Needs Specialized Railway Engineers

Subhash Awale\*

Historically, the real progress and development of any nation has been dependent upon good infrastructure, particularly an excellent transportation system with an adequate network of roads as well as railways. Having systems with man or horsepower, and tracks or guides made of stone or wood, the history of rail transport dates back as far as the ancient Greeks. Time passed by and the first full scale working railway steam locomotive was built in the United Kingdom in 1804 by Richard Trevithick, an English engineer. The world's first railway journey took place on 21<sup>st</sup> February, 1804 when Trevithick's unnamed steam locomotive hauled a train along the tramway of the Penydarren ironworks near Marthys Tydfil in South Wales.

Subsequent to this development, a number of countries in the world followed suit so far as the introduction of railways is concerned. Prominent among these countries and the year of introduction of railways include France (1827), US (1828), Belgium (1835), Germany (1835), Russia (1837), Netherland (1839), Spain (1848), Canada (1853), India (1853), Pakistan (1861), Japan (1872). China came into the scene comparatively late. The first rail road to operate commercially in China opened in Shanghai in July, 1876.

With a very moderate beginning and after having passed through heavy odds, the railway in some countries has developed significantly in terms of speed, comfort, maintenance, safety, vibration, including the signaling systems and the modern and human- friendly platforms. The maximum operating speed of the train in some developed countries ranges between 300 km/h to 487 km/h. If we look at the high speeds at which the trains run, one gets astonished to see as to how, despite such a high speed, the train journey is so comfortable without any jerks or vibrations. As against this scenario, the fastest train in India, known as Gatimaan Express runs with a top speed of 160 km/h only. Interestingly, India has signed an agreement with Japan recently to build India's first high-speed train to run at a speed of 320 km/h between Mumbai and Ahmedabad.

The role of engineers in the modernization and development of railways has remained very crucial and pivotal all through. In so far as the situation in India is concerned, there needs to be a substantial improvement and modernization in railways so that the railway lines reach the remotest places in the hilly, rural and urban areas to cater to the needs of the high speed locomotion, rapid transit system and increased goods movement.

Nearly after 69 years of independence of our country, India is passing through a stage where it aspires to be in the category of developed nations and to compete with them globally. In the absence of the basic requirement of a good infrastructure involving an excellent transportation system, the

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