A CRITICAL STUDY OF GROWTH AND DEVELOPMENT OF ENGINEERING EDUCATION IN PUNJAB AFTER INDEPENDENCE

ABSTRACT OF THESIS
PRESENTED TO THE FACULTY OF EDUCATION AND INFORMATION SCIENCE PUNJABI UNIVERSITY, PATIALA IN FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION

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'A Critical Study of Growth and Development of Engineering Education in Punjab after Independence' was carried out to study the policy perspective in engineering education and general growth and development of engineering education at the national level as well as in the state of Punjab. The study also included the analysis of views and perceptions of teachers, administrators, intellectuals, social activists and beneficiaries with regard to various issues related to engineering education in Punjab. Besides, case studies of eight engineering institutions of Punjab were also conducted. The effects of policies and programmes of the central and state government were critically evaluated and secondary data from various sources was pooled up and analysed to study the various trends and patterns of expansion of engineering education in Punjab vis-a-vis at the national level. The views and perception of the respondents obtained through the interviews were analysed by making use of content analysis. The investigator himself visited various institutions of engineering education to conduct the case studies in detail. The secondary data was analysed with the help of tabular analysis making use of bar graphs, line graphs and pie charts. On the basis of the study of policy perspective it was found that in the pre-independence period, the industrial policy of the British Government was based on the interests of British Capitalist class and required growth and development of engineering education did not take place. After independence the policy of the government was oriented towards the development of engineering education and various five year plans stressed upon various aspects of technical and engineering education for its further development. Until nineties most of the engineering institutions were opened in the Southern states. Moreover after the adoption of neo-liberal changes by the Indian State, Central as well as Punjab Government slowly reduced general subsidies in engineering education in a phased manner, however a system of merit scholarships, educational loans and fee waiver schemes for the financially weaker sections of society were introduced. The secondary data analysis showed that there has been
a significant increase in the sanctioned intake, enrolment and out turn of engineering graduates after independence. The number of engineers per million population in India was found to be still behind South Korea, Australia, Germany, UK, New Zealand, USA, Japan and China, whereas the growth rate of output at the bachelors level in India has been highest in the world. Most of the engineering institutions including IITs and NITs have been facing the faculty crunch. It was also found that number of private institutions of engineering education had continuously increased after independence. Intake of students in engineering education in the state has significantly increased, but out put to sanctioned strength ratio for graduate engineers has been low in the disciplines like computer science, production, IT, electrical and leather technology. Besides, although the total enrolment of female students at graduate level in engineering courses in Punjab has increased over the years after independence, yet it is far behind the achievement of the ideal of 'gender equality'. Majority of the respondents students, parents, teachers, administrators, intellectuals and social activities perceived that quality of engineering education in Punjab has not been up to the mark. The case studies suggested that however most of the engineering institutions in Punjab possessed enough land and sufficient buildings, infrastructure and laboratories, but most of them did not possess sufficiently qualified and competent faculty. The study also suggested that agro-based engineering courses should be introduced in all the institutions of engineering and technology in Punjab after establishing the agro-based industries in the state on a large scale.