

Assessment of 21st Century Skills: Use of Creative Story Writing for Assessing Graphs

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EXECUTIVE SUMMARY

This chapter describes an action research in which creative story writing was used to assess student understanding of graph construction. Students were encouraged to write stories involving motion and visually depict verbal descriptions of stories in the form of tables and line graphs. Student work revealed several misconceptions held by students vis-à-vis writing motion-based stories, tabulation of data, plotting of graphs, and establishing congruence between stories and graphs. This study suggests several feedback measures that can be used by teachers to rectify these misconceptions.

INTRODUCTION

Students cannot learn everything that they need to know in adult life during school years. They need to be lifelong learners who can keep on acquiring new knowledge and skills for themselves as per the needs of the ever changing world. Various international and national documents have consistently been reporting that present day education system based on the ‘banking concept of education’ (Friere, 2006)

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is not equipping students to face real life problems (Partnership for 21st Century Skills, 2015, GOI, 2020). Consequently, such students face numerous challenges in adapting to the changing requirements of the world. All the more, even after amassing higher qualifications, such students fail to achieve good jobs as the present day job market requires a workforce which possess 21st century skills like critical thinking, collaboration, creativity, communication (OECD, 2022).

Recently, there has been an increasing recognition that creativity and creative thinking should be fostered as one of the 21st century skill (Adams et al., 2015; Griffin et al., 2012; Kereluik, Mishra, Fahnoe, & Terry, 2013; Partnership for 21st Century Skills, 2015, GOI, 2020). In many cases, this recognition is explicitly enshrined in school curricula. For example, Scotland's Curriculum for Excellence considers creativity fundamental to the development of a successful learner (Education Scotland, 2013). Similarly, in Australia, there has been an emphasis on developing "successful learners, confident and creative individuals, and active and informed citizens" (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008). On similar lines, India's National Education Policy reinstates the importance of development of creativity among students so as to encourage logical decision-making and innovation by them (GOI, 2020). It categorically mentions:

Given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects (GOI, 2020, p. 34).

Drawing from the vision of new education policy, Indian education system is moving towards development of critical, innovative thinking, problem solving among its' students, thus, emphasising the development of creative potential of each individual. Of lately, there has been a significant thrust on skill development in Indian education. A dedicated government ministry—Ministry of Skill Development and Entrepreneurship has been created to foster 21st century skills among country's youth. It is aided by its functional arms – Directorate General of Training (DGT), National Skill Development Agency (NSDA), National Council for Vocational Education and Training (NCVET), National Skill Development Corporation (NSDC), National Skill Development Fund (NSDF) and 38 Sector Skill Councils (SSCs) as well as 33 National Skill Training Institutes (NSTIs/NSTI(w)), about 15000 Industrial Training Institutes (ITIs) under DGT and 187 training partners registered with NSDC. In addition, collaborations with international organizations, industry and NGOs have

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