

Teachers Data Literacy for Quality Education

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ABSTRACT

The ultimate outcome of the quality education is enhanced students achievement. The effective application of educational data can contribute towards student's higher achievement. The Educational data literacy among teachers can improve the application of available public and private resources. However in present scenario less effort has been made towards data literacy of the teachers, hence teachers regard educational data overwhelming. No Doubt Educational data is a powerful tool for teachers for quality teaching and learning rather than a burden to the teachers. The data literacy must be promoted for the quality education through pre-service teacher education and in service teacher education as well. It will certainly empower teachers for quality education.

Introduction

Teachers are an important factor in the school in student's success. Good teaching does not happen by an accident. The good teaching is the outcome of proper teacher training and sound pedagogical knowledge and continuous professional development as well. Educational data application and use can reflect in better teaching practices and better students achievements. For the proper data understanding and their application must be practiced by teachers. For students quality achievement quality data such as attendance, achievement grades, students behaviour, students growth, interactions, teacher observation, assessment data etc. Must be embedded in school culture and must be valued and reinforced by teachers and administrators. Simultaneously time for data used and reasons of data must be available in the school educational data.

Teachers empowered by data and skills of data application improve classroom instructions for quality education. Without necessary data applications skills, teachers do not

have enough skills for making best decisions to improve outcomes of their students. Teacher training Institutes must provide leadership for promoting data literacy through teacher training programs by including necessary data literacy component i.e. data driven decision making, access of quality data, common language for data etc.

Sarva Siksh Abhiyan has achieved student's enrolment and retention in the school. The next task must be quality education. Teacher training institutes must prepare teachers for quality education. The teacher training Institute must include data driven decision making, skills of data application and ethics of educational data.

Educational researches demonstrate that whenever teachers are exposed for data application skills the students achievement increases (Lai & Schild Kamp 2013). Exposure of data application leads teachers to improve their teaching, school practices and curriculum delivery.

Data literacy implemented in schools has less achievement gap between schools especially in mathematics (Ariola and Dunn 2011). In urban schools there are meaningful linkage between teachers, principals and students achievements (Faria, Heppen et al 2012). The same research also found that school level support of data application also relates to the higher level students achievement. This reflects that whenever teachers exposed to quality data quality of the teaching learning and students achievement improves.

Though in present age there is boom of technology. Most of people are exposed to the technology like cell phone, palm top, TAB and computer. The teachers also need to provide proper training for using data effectively. The technological boom or the short term training course does not fulfil need of data skills uses and effective use. For successful schools, school leaders must develop more capacity for quality data collection, data analysis and to make informed efforts to achieve goals of the school. Teacher training Institutes in India provide pre service teacher training and in service teacher training as well for teachers. These Institutions must shoulder the responsibility of quality data collection and training of data skills required for the teachers.

Skills required for effective data application:

1. **Continuity:** Teachers must use educational data in daily routine of teaching learning. One time event of data use/ application is useless in teaching learning improvement.
2. **Effectiveness:** Educational Data must be used effectively for informant instruction and must be collaborated with colleagues. This also results in higher student's achievement.
3. **Ethics of data uses/ application:** The educational data must be used for students improvement and teaching professionalism. The student's privacy must be protected.
4. **Access:** Raw data must be available to teachers. Teachers must have freedom to interpret the educational data. By this, teachers get answers to the teaching learning problems in hand. The teachers can address the problem which he encountered in teaching learning.
5. **Interpretation:** Educational data interpretation provides the answer to the specific problems in teaching learning. Hence teachers must possess the educational data interpretation skills and data analysis skills as well.
6. **Action:** Teachers must have freedom to apply the relevant information which he found after data analysis. Such action may provide teachers to produce further new quarries/ ideas. These ideas/ quarries may further be addressed and answered.
7. **Communication:** Educational data must be shared between colleagues (teachers), principals and school administration. For educational data sharing teachers must be trained for effective communication. This also includes reporting of educational data in relation to the difficult questions, problems and situations.

Practising Data Literacy

1. **Promoting Data Application Skills:** Teachers must be provided opportunity for data use/ application. Lesson delivery, designing and presentation, record book, teacher diary etc. must be supported by information technology (ICT) uses/ applications. This provides base for educational data use. Best practices of data use /applications must be demonstrated, recognized and appreciated. Programs based on data literacy must be included in curriculum. It will be the best practice to make data literacy compulsory course in Teacher Training Programs/ Courses.

For developing data application skills incentives and support must be provided to the in-service teacher programs or professional development of the in service teacher's. Educational data application tools may change with the time, hence teachers must receive proper and enough training for the purpose. Teacher Training Institutes and government initiative like SSA and RMSA may give enough support to the educational data literacy programs and quality education.

2. **Accessibility of Educational Data:** For educational data literacy, educational data must be available to the teachers. Internet i.e. Google, Face book and Twitter are not quality sources of the quality data. More reliable and quality data must be made available to the teachers. DISE data compiled during SSA and RMSA is available for researchers and interested persons only. Such data must be made available for all the teachers. The awareness campaign must be initiated to make awareness of availability of such data resource.

Simultaneously resources to access such data must be made available in schools for teachers. It is unfortunate that in rural areas/ districts even in some urban areas basic facilities such as electric power supply is not available. The schools and state must develop a strong feedback mechanism/ loop. By developing such mechanism data accessibility and data quality will certainly be improved. The most important factor to access data and use it is the time. Teachers must provide sufficient time for data use. It is also better to develop a culture of data use which may provide social support for using and applying

educational data. Sometimes teachers themselves do not support for data uses due misconceptions about data uses/ applications.

Conclusion:

Researches recognize the importance of data uses. Teacher Training Institutes and government also recognize the use of data for effective teaching learning. Teacher's data literacy certainly improves instruction quality and data security as well. To achieve better student outcome more can be done.

Teacher's educational data literacy primarily focuses the school teacher but also apply to the school principals, school inspectors and educational directors as well. All the stakeholders must be equipped with educational data literacy skills. The outcome will result in quality education and improved students outcome. By continuous teachers data literacy effort all the teachers in schools can be empowered for quality education.

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