

Big Data in Department of Technical Education: An Action Research on Digital Class Teaching

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Abstract: The department of technical education is a matter of myriad state concern all over the world. Recently the use of technology have been practiced and explored to a greater extent in improving the quality of class room teaching very necessary in digital presentation. Owing to popularity and comfort in use social media have penetrated to every quarter of technical education. Recently concluded researches shows that average global internet user spends two and a half hours daily on social media producing huge sum of data absconding the traditional data handling techniques at stake. Since these data potentially reflects user trend and hence are much useful for various purposes. The social media partners are making significant investments in putting this data to work because it gives the analysis of media content has been central in social sciences, behavioural sciences, education, research, marketing and policy framing etc. No doubt the majority of social media clients are youth who use it before anything else. Their performance and experiences such as study, eating, sleeping, and social habits, the course of study selected, passion and attitude towards instructor are impacted by it. Positive impact leads to improve their learning and skill out comes while negative impact may leads to problem of their retention and downgrade their results. Various researches are there which provide an solo impetus to either big data and social media for education but there are very little efforts to explore both through an integrated study, especially in technical education. This paper will discuss the impacts of big data and social media use to short out positive impacts on the stakeholders of technical education and institutes of department of technical education. Based upon this a roadmap is suggested for future use of these two emergent technologies to improve quality of digital class room teaching in technical education and student engagement.

Keywords: Big data, technical education, Student Engagement, Digital class Approach.

1. INTRODUCTION

Big Data:

Big data is a data and it describes the large volume of data – structured, semi-structured and unstructured data – that inundates a business, education, government on a day-to-day basis. But it's not the amount of data that's important. It's what organizations do with the data that matters. Big data can be analyzed for insights that lead to better decisions and strategic business moves. While the term "big data" is absolutely new, the act of gathering and storing large amounts of information for eventual analysis is trends.

Big Data categorize 4V's:

Volume - Organizations collect data from a variety of sources, including business transactions, social media and information from sensor or machine-to-machine data. In the past, storing it would've been a problem – but new technologies (such as Hadoop) have eased the burden.

Velocity - Data streams in at an unprecedented speed and must be dealt with in a timely manner. RFID tags, sensors and smart metering are driving the need to deal with torrents of data in near-real time.

Variety - Data comes in all types of formats – from structured, numeric data in traditional databases to unstructured text documents, email, video, audio, stock ticker data and financial transactions.

Variability - In addition to the increasing velocities and varieties of data, data flows can be highly inconsistent with periodic peaks. Is something trending in social media? Daily, seasonal and event-triggered peak data loads can be challenging to manage even more so with unstructured data.

Complexity is the characteristics of big data, Today's data comes from multiple sources, which makes it difficult to link, match, cleanse and transform data across systems. However, it's necessary to connect and correlate relationships, hierarchies and multiple data linkages or your data can quickly spiral out of control.

Why Is Big Data very Important?

The importance of big data doesn't revolve around how much data you have, but what you do with it. You can take data from any source and analyze it to find answers that enable

- 1) Cost reductions,
- 2) Time reductions,
- 3) New product development and optimized offerings, and
- 4) Making smart decision.

When you combine big data with high-powered analytics, you can accomplish business-related tasks such as:

- Determining root causes of failures, issues and defects in near-real time.
- Generating coupons at the point of sale based on the customer's buying habits.
- Recalculating entire risk portfolios in minutes.
- Detecting fraudulent behaviour before it affects your organization.

Who uses big data?

Big data affects organizations across practically every industry.

- Banking
- Education
- Government
- Retails
- Financial
- Manufacturing Industries
- HealthCare
- Private Organization (Google, Amazon, IBM...)
- Social Networks

2. TECHNICAL EDUCATION

Technical education, the academic and vocational preparation of students for jobs involving applied science and modern technology. It emphasizes the understanding and practical application of basic principles of science and mathematics, rather than the attainment of proficiency in manual skills that is properly the concern of vocational education. Technical education has as its objectives the preparation of graduates for occupations that are classed above the skilled crafts but below the scientific or engineering professions. People so employed are frequently called technicians.

Technical education is distinct from professional education, which places major emphasis upon the theories, understanding, and principles of a wide body of subject matter designed to equip the graduate to practice authoritatively in such fields as science, engineering, law, or medicine. Technical occupations are vital in a wide range of fields, including agriculture, business administration, computers and data processing, education, environmental and resource management, graphic arts and industrial design, and health and medicine; technical educational curricula are correspondingly specialized over a broad range. Technical education is typically offered in post-high-school curricula that are two years in length, are not designed to lead to a bachelor's degree, and are offered in a wide variety of institutions, such as technical institutes, junior colleges, vocational schools, and regular colleges and universities.

3. DIGITAL CLASS TEACHING

1. Personalized Learning:

The opportunity to help every student learn at the best pace and path for them is the most important benefit of digital learning. Hundreds of next generation of colleges are prototyping the benefits of customization. A diverse group of 28 practitioners, advocates, and business and union leaders recently came together to imagine education given the new opportunity of digital learning. One on one tutoring is a good example of personalized learning, but it is expensive. The shift to digital learning can approximate the benefits of tutoring while freeing up time for teachers to address individual and small group needs. The opportunity to customize learning sequences for each student will make education more productive. Special needs will be more quickly diagnosed, learning gaps will be addressed, and progress will be accelerated.

2. Expanded Learning Opportunities:

Digital learning is an extending learning opportunity like worldwide. Education imagine celebrates open-walled learning and acknowledges that, learning happens at many times and in many places and intentionally leverages its expansive nature in the learner's development of competencies. learners with authentic, rich, and diverse learning opportunities. Access to full and part-time online learning means that every student, state policy permitting, has access to many world languages, college preparatory curriculum, and advanced studies. It is remarkable that thousands of university courses by the best professors are available for free to anyone with a broadband connection.

3. Learning High Engagement:

The shift to digital can boost student motivation. Anyone who has witnessed the engagement of game-based learning can appreciate the potential to create learning experiences that boost persistence. Kristen DiCerbo, the lead at Pearson's Centre for Learning Science & Technology, is similarly passionate about the many possibilities that games offer education – better engagement, invisible assessment, deep learning, High agency learning recognizes learners as active participants in their own learning and engages them in the design of their experiences and the realization of their learning outcomes in ways appropriate for their developmental level. Evidence that encouraging student agency will produce better learning outcomes is central to most likely to succeed a film: A Film about What School Could Be.

4. Learning Based-Competency:

Students show what they know and progress based on demonstrated mastery. Competency-based learning is possible in paper and pencil (I look it in Chugacy Alaska in 1999) but it is hard to monitor and manage an individual progress model at scale. The support on Flex blends individual progress. Dynamic grouping, workshops, and project-based learning can add lots of collaborative learning to an individual progress model. Because competency-based learning changes everything about school, the transition from age cohorts to individual progress models will take longer, this is a generational shift.

5. Learning for Assessment:

Digital learning powers continuous feedback from content-embedded assessment, games, simulations, and adaptive learning. When students can track their own progress it can improve motivation and agency. Check out the Project for learning Assessment, grant applications are due by December 10, 2015.

6. Learning Collaborative Assessment:

Digital learning powers collaboration. Social learning platforms make it easy for teachers to create and manage groups. Collaborative authoring environments like Google Docs make it easy for teams (near and far) to co-author documents and presentations.

7. Learning Quality Assessment:

Digital learning tools allow students to produce professional quality products and to share them with public audiences. The journalism program at Palo Alto High School is a great example of what kids can do when empowered. Presentation, publications, and portfolios change the classroom culture from turn-it-in, to production for public audiences. Digital tools means more and better writing. 8. Sharing economy There has been an explosion of free and content open tools . Schools can save money while ensuring equitable access. Common standards and sharing platforms have made it possible for millions of educators to share tools and resources across state lines.

8. Next-Generation education for Learners:

Blended, personalized and competency-based learning is for educators too! As discussed in Preparing Leaders for Deeper Learning, preparation and development are increasingly based on a competency map (what educators should know and be able to do), many personalized ways to learn, and multiple opportunities to demonstrate learning. Teachers can also join online professional learning communities, like Testability, to ask questions and share tips and stay connected with a global community.

9. Regularly and Relevant Content Updated:

Regardless of age or content, students have more access to relevant and regularly updated content. Next generation an instructional system that includes print and digital options with online adaptive skill building allow teachers and students to personalize in new and exciting ways. The ability to update easily means access to updated material and features on a regular basis. As Mickey Revenaugh, Co-founder of Connections Education, and Director of New School Models at Pearson notes, “All of the users of Connections Learning and Grad Point courses — whether they’re studying 2nd grade reading or AP Calculus or something in between — benefit from real-time, dynamic updates of the content. In fact, the Connections curriculum team is constantly monitoring user feedback through the Start rack five-star rating system to make incremental improvements on the fly that all users benefit from.”

10. Scoring and Grading:

In simple ways application such as bubble score allow teachers to either deliver multiple choice tests via mobile device or scan paper exams via mobile device cameras. Typically allow the tools instructor’s expert result to grade books and track progress along with finding parameters.

11. Personalize adaptive learning:

The assignment and the grading process, classroom data-driven open up the experience of student learn, when they learn it and at what level. The digitl course use big-gata-fueled predictive analytics to pinpoint what a student is mastering and what units of a chapter plan best suit them under those circumstances.

12. Problem Management:

When it comes to issues that can arise in the classroom a student handing in writing that might not be his own, example – data is a teacher’s disposal. A company like Google, leverages big data to cross-platform or reference written work with public databases and others online resoures.

4. CONCLUSION

This research concerned with improve student thinking level, positive mind approach, Motivation or concentrate on study and understanding the concept which recognize the pictural like text, audio, video, 3D, animation will get easy understanding and memorable. This action still going on explore further opportunities to develop student concentration, learning analytical tools, predictive tool, improve student performance etc...

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