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HYBRID TEACHING METHOD IN BUSINESS INFORMATICS

Abstract

This is an era of technological advancements and the use of technology is in almost all walks of life including the various industrial and business sectors. In the field of academics, especially the higher education, there is a growing need for students and graduates to be equipped with relevant knowledge as well as practical skills, with emphasis on the ones based on applications of technology, which are required as professionals in the industry and business. Therefore, this paper aims to study the types of teaching approaches in particular hybrid teaching method and take up the measures which can make learning more effective. The aim of the paper is also to ascertain if incorporating hybrid teaching method in curriculum of business informatics can make the learning more effective and through what measures.

Key words: DIMBI project, hybrid teaching, traditional learning, ICT, portal.

INTRODUCTION

In this era of digital technology advancing in all walks of life and industrial sectors, it is imperative to have skills especially the ones for technology applications, along with conventional and conceptual knowledge. Sydney Harris, the famous American journalist, had once famously quoted, "The whole purpose of education is to turn mirrors into windows." It conveys that the mirror reflects only what is in front of it while a window gives a vision of what is beyond. In the context of education, it can be said that a traditional or mirror type of education wherein the textbook-based teaching, methods, practices, problems and questions stay the same. While in the window or dynamic type of education, which could be more practical based, active form of learning, there is more of value addition as it opens the minds to innovative ideas and equips the students with relevant learning in order to look forward to effectively deal with current and future requirements of the environment. The discipline of Business Informatics (BI) constitutes the usage or application of Information Technology (IT) in business. With the advancement of technology in all walks of life - industrial sectors as well as education and training, and in almost all aspects of offering products and services to the customers, digital means are being used for connecting better and faster with customers. The students or graduates of Business Informatics and similar subjects are required to possess the knowledge and skills related to

technology as well as management. Hence, the skills such as having technical know-how, problem solving ability, critical thinking, decision making, to organise and manage the processes in an organization, are required in the industry and business environment. In such a scenario, it is important for the aspiring students of subjects such as Business

Informatics, to have a dynamic type of learning, which would enable them to have and develop work-ready skills. Exploring the approach of technology integration in the learning can enhance the way the knowledge is being imparted while the curriculum and assessment can be designed in a way as to enable imparting knowledge with enhancing employable skills in the students. The industry, business, the students as well as the educators are now more aware of the fact that one's ability to perform in real life situations requires more than conceptual knowledge and therefore, now there is a greater interaction carried out in educational institutes through which the students get to experience or at least interact with real life based situations and relate the concepts they have learnt in classroom to the situations.

Literature review

Business Informatics constitutes the use of IT in Business. The skills and competencies required in the field of Business Informatics are as represented in the given Venn Diagram.

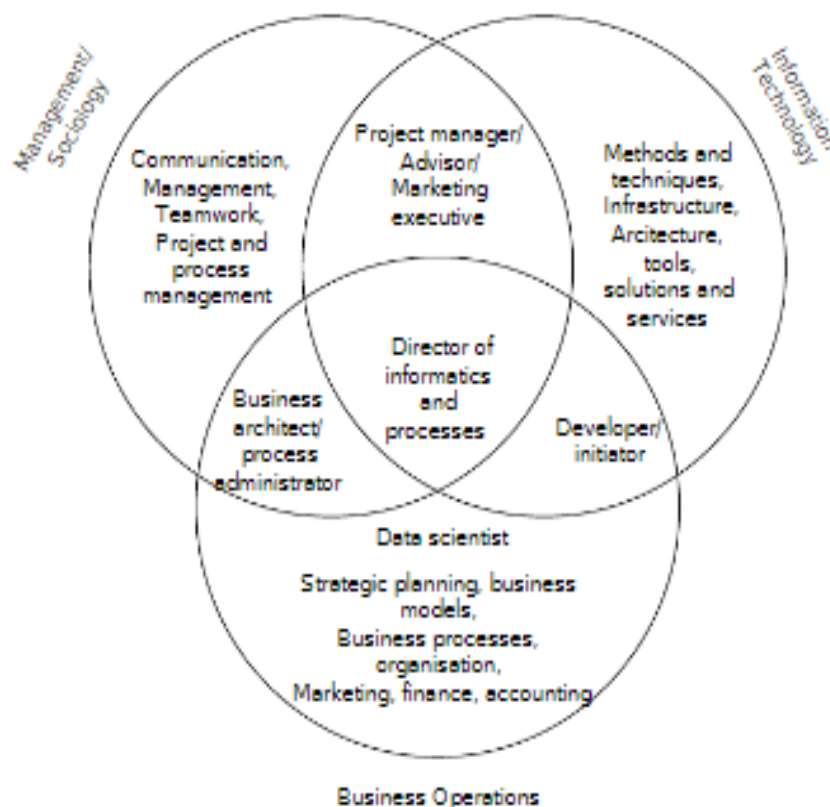


Figure 1. Key Competencies in Business Informatics

The idea to implement a Bachelors or Masters Studies in Business Informatics (BI) always should be preceded by recognizing profound market needs and skills such as the ability to work as part of a team, analytical skills, an aptitude for Information Technology, communication skills (oral & written), creativity, problem-solving skills, the ability to work in a changing environment, the ability to work under pressure. This means a BI graduate is expected by

the industry and business to possess a variety of skills spanning over the areas of technology, management (of people and systems) and business operations.

The BI graduates are required to know the technology of the software based systems running in the organisation and to possess critical thinking and decision making abilities to bring in improved solutions and techniques for more efficient functioning and decision making and management of employees and resources in an organisation.

The skills focus on the five basic resources of people, hardware, software, communications and data. People resources include the users and developers of an information system and those who help maintain and operate the system such as IS managers and technical support staff. Hardware resources include computer and other items such as printers. Software resources refer to computer programs known as a software and associated instruction manuals. Communications resources include networks and the hardware and software needed to support them. Data resources cover the data that an organisation has access to such as computer databases and paper files. Therefore, Business Informatics graduates, as professionals, can avail good income, exciting and challenging fields, opportunity to grow as technology involves, develop skills for problem solving, global opportunities, chances to be more innovative. The learning for Business Informatics as well as similar subjects can be in any of the following methods: Traditional, Digital or E – Learning, Hybrid or combination of traditional and digital learning.

The traditional method involves imparting knowledge through the conventional, textbook based teaching of concepts. It is more structured and mainly adheres to the teaching of the contents in the stated curriculum of the course. It involves the teacher teaching through lectures, revising the content at the end of the lecture by the means of teacher asking the students regarding the learnt theory and concepts, there is also more emphasis on completion of the stated syllabus in the predefined time-frame of the course, then credentialing the academic performance of the students through theory based examinations and presentations.

While the digital or e - learning constitutes of imparting knowledge of the concepts through digital means and a more practical approach. It is a more flexible and student –centred approach as it involves more and active participation of students in learning through digital modes and techniques such as distance learning, education portals, case based online project, mobile technologies in teaching, Augmented Reality (AR), Gamification. These methods are discussed in the following sections. This interactive process of learning helps to build relationships between the lecturer and the student (Centrum e-Learningu AGH, 2008). The concept of anytime and anywhere is that e-learning promotes life-long learning and eliminates the problems associated with distance. The flexibilities which e-learning offers to students is the main motivating factor in choosing online courses (Jain et., 2008).

Hybrid approach is a combination of the two types of learning –the traditional and the e – learning method. Some of the digital or e –learning methods are discussed as follows:

1. Education Portal

The education portals are websites containing options and features offering personalized study material to students on their logging in as registered users and then the material is available to them on the basis of their user information stored in the database. In-built functions are available in the portal so as to enable students to carry out their tasks required in the education course. For creating an education portal, there are the following ways such as: a platform for creating the portal may be used – such as Joomla, WordPress, Moodle (Modular Object-Oriented Dynamic Learning Environment). Another possible approach is a specialised web application (created with PHP/MySQL or ASP.NET or another programming tool).

Portals offer many advantages such as single entry point for all available functions and accessing information, communication of students with teachers and sharing of information through options like chats, emails, bulletin boards, user personalization i.e., information resources and services available to the users on the basis of the details of their followed courses and other information in the database. Portals also enable flexibility to students in being able to login and access study material from their homes.

The limitations of building portals include the following aspects:

It requires expenses from the organization to create and maintain a portal, hence it should be created if actually required. The institute and the members have to consider creating a portal as a long term commitment and not a one-time investment as the content and information and other aspects need to be updated whenever necessary. Careful consideration of security, privacy and protection of Intellectual Property must be part of the portal development process (what-when-how, 2017).

Some examples of education portals are: <https://www.buncee.com/education>

This portal enables teachers to educate students through interactive projects, lessons, presentations through the means of digital media. http://study.com/pages/About_Us.html

It is an education portal offering low cost college credit transferrable to the college of their choice, accessible education in the form of short videos.

2. Case based online group projects (Hassanien, 2007) stated that the cooperative learning in an online environment fosters higher cognitive skills such as the ability to reason, inquire, present, assess and solve problems. (Lee, et. Al, 2016) conducted a research study involving 242 undergraduate students attending an online course in public health at a large south-eastern university in the United States. The purpose of the study was to investigate whether the case based online group work increased students' satisfaction with interaction among students in an online course.

The online course provided narrated presentations and lecture notes and communication between the students only through email, without any face – to –face communication among them. Two out of three sections were asked to select a case study from given 20 successful stories and create a narrated PowerPoint presentation, in a group of 4-5 students while in the one, individual work section students were asked to work individually.

After the presentation, the response of the students was collected via a web based survey. The statistical test result revealed that the group work did not have a significant effect on students' satisfaction with online interaction but the students' perception of the importance of interaction had a significant effect on their satisfaction with interaction in the online course.

The students in their response stated that even though it was a course designed for distance learning, face to face meeting became critical for greater group collaboration and problem solving activities. Also, email communication, at times, gave way to delay in responses. It was suggested that either physically meeting to discuss the content and problem with the group members or communication through chats, video conferencing, VoIP, discussion or bulletin boards at the beginning of the project could be allowed for better and faster communication and efficient way of working. Due to the issues faced, the students said they would prefer online and self-paced, individualized learning. Hence, it has also been suggested that the course instructors can incorporate activities at the beginning of the project to encourage trust, setting of goals and negotiating the roles and stating guidelines for the frequency of communications among the group members.

3. Mobile Technologies in Teaching

The use of mobile applications that help in learning is a popular and useful trend in recent times. Mobile applications or apps are designed to help the user in learning activities.

Some of the examples include Good Reader App for reading, Evernote for taking notes, Storykit, Dragon Dictation for writing. Mobile devices include mobile phones, smart phones, personal digital assistants, netbooks, tablets, etc. These are handy as they are light and portable, and information can be accessed or input at any place or time. It enables interaction among peers and with instructors. "Moment of Need" Mobile Support provides access to users or employees to reference materials, product information, tutorials, allowing them to effectively attend to their job activities without having to step out of their work area.

4. Augmented Reality

Augmented Reality (AR) technology can be used for a more effective learning experience for the students, through the use of multidimensional images. AR applications and platform enable students and teachers to visualise 3D models in the real environment, in real time, and at scale (Augment, 2016). The most common use of AR can be seen through mobile apps. Point your device's camera at something that the app recognises, and it will generate a 3D animation or video superimposed over whatever is on your camera's screen. The effect makes the computer-generated item appear like it is there (Teachthought, 2016).

A literature review, analyzes of current research, the author's practical experience and the increasingly common education trends show that at present new teaching methods are significant approach in teaching and learning process. The main problem in the area of using new solutions by teachers is that there are not many good examples. In some cases the use of new teaching methods can make classes more effective and attractive.

3. Research methodology

4. Discussion

5. Problem Statement

An analysis of the new teaching methods shows that new solutions in academia are used very seldom.

This results from the fact that:

- professors do not have any strategy for developing of teaching skills;
- there is a lack of common digital culture in academia;
- there is a low level of ICT skills the part of professors; .
- there is difficult access to finance and investments in education.

It affects the level of technical problems, limits the teachers in the implementing innovative changes and finally leads to gaining low profits from educational activity. In Europe, only some professors are aware of the need for innovative changes. Therefore some of them whenever possible try to improve the current situation.

6. Research Questions

1. What measures can be taken to make learning more effective and resourceful?
2. Should hybrid methods be incorporated in higher studies curriculum to make learning more effective?

7. Research Objectives

1. To study the types of learning and take up the measures which can make learning more effective and resourceful.
2. To determine measures to ascertain if incorporating hybrid methods in higher studies curriculum will make the learning more effective.

It can be stated that now a days some prominent university models are integrating digital technology for more connected and creative forms of learning. It can be said that due to increasing use of digital technology, students pursue these modes of learning such as education portal, online case based studies, mobile technologies in teaching, Augmented Reality (AR), gamification, that are more flexible, interesting and convenient. The technology enhanced

learning can be described as active, connected and creative practices than passive consumption of knowledge. There are benefits and limitations of traditional learning as well as digital learning which can be stated as follows.

From the above discussed types of digital techniques, the following benefits are inferred:

a) flexibility

It is extremely flexible for the students as well as teachers in terms of being able to teach or learn at any time or place and also adjust the teaching or learning pace accordingly.

b) convenience

Students and teachers can share information, communicate and learn, teach from their homes or at any place and at any time.

c) cost effective resource availability for students

E-learning means such as education portals, mobile apps provide a low cost option for availing resources such as quality study material, teaching and guidance.

d) digital Experience

The students of courses such as Business Intelligence, Management Information System, can avail the benefit of having a first-hand experience with technology and digital means, which could be more enriching for them than simply a traditional theoretical teaching based lecture.

e) advantage of being able to communicate anytime online with peers, faculty

The students can at any time put up their query related to the subject through online chat, bulletin board or email and the teacher or other students can post or send a reply to it.

f) user Personalization

The users of a digital platform such as education portal can avail the benefit that the data that they require according to their course and details of their user profile, can be accessed by them through the means of their details in the database.

g) access to a huge knowledge base

The students and teachers gain access to a lot of knowledge and fresh ideas and can enrich their minds from it.

h) easy upgradation of material

The teachers can easily update or modify the study material they choose to upload on the e learning platform.

i) easy monitoring of learning and academic performance

j) feedback.

The feedback for knowing the effectiveness of the teaching practices and even knowing as to what methods the students use for self-study and would prefer for the relevant topic, is possible through the means of online interaction between teacher and students.

From the above types of e - learning techniques, the following limitations of e – learning are observed:

a) lack of direct, face-to-face interaction

The lack of direct interaction between teachers and students and at times among the students, can often lead to a feeling of inadequacy or dissatisfaction of learning, among the students. It can even cause frustration in some of the students who need to understand or discuss certain basic concepts thoroughly.

b) technical drawbacks and possible frustration

If the technology-based teaching system has any technical faults such as slow speed of servers, or delay due to online internet traffic or delay in response, it can cause frustration among the students.

c) high costs of IT infrastructure

There could be a huge expense for institutes and even course fees of students in terms of setting up, running and maintaining an IT system and training the staff for it.

d) fear of complication and technical complexity

Some students or even teachers who are used to traditional, structured method of learning based on textbook, may feel that the learning and communication through digital means, could be complicated and complex to follow and therefore may try to avoid it.

e) lack of structure and direction in curriculum

High amount of flexibility in e learning may cause lack of a required structured in curriculum as there is a direction required in following a curriculum.

f) complicated to Assess the overall academic performance

Though the grasping and understanding level of students can be known but it is not easy to decide and apply a fixed pattern of assessment of the students' overall academic performance.

g) constraints of time-bound program and course

The courses being time bound, it can become difficult for the teacher to allow much time for a high amount of flexibility and for discussing newer ideas as parts of the curriculum need to be taught or covered in certain time period.

Thus, the benefits as well as limitations of the e learning system are observed. Hence, choosing a system which is a combination of the traditional and the e learning, which is the hybrid system of learning can be an effective learning option.

5. recommendations

Hence, the following measures for the educators and teachers for increasing the effectiveness in the teaching of higher studies are suggested as follows:

a) beginning the class with stating the goal of learning the concept and its importance and benefit for the students.

This will help win the attention and trust of the students while attending the class and learning the concepts as they would feel the concept carries importance and benefit for them.

b) real life-based cases and examples

While teaching the concepts, the teacher can state the examples of real situations and give short cases to the students to solve. This may enable the students to relate Theories and concepts to the real situations and help in developing their problem Solving skills. The students can also discuss in small groups which can help in developing the interaction ability and think of fresh ideas.

c) role playing

The teacher can give a concept or a scenario and ask the students to enact and understand it better. This will help in bringing freshness to the learning session and enable the students to enjoy the learning and understand the concept better.

d) incorporating Technology through ICT

There are many ways in which an educator or teacher can explain the concepts more effectively. Presentations by students for solving case studies, showing educational videos, sharing information and interacting through education portals, chats, emails, interacting through webinars, video conferencing, sharing information through mobile applications, creating a multi-dimensional learning experience through Augmented. Reality (AR), gamification i.e., teaching instructions through designed knowledge based games, are only some of the e learning methods that can bring freshness to the class, enable students to understand the concepts better and think innovatively. Due to the constraints of time, these methods can be incorporated for teaching select concepts to the students.

e) revision of learnt concepts

This important practice can be done directly or through short quizzes on projector Screens, to know what the students have learnt and help them revise the learn concepts.

f) feedback and action

It is important for the teachers to know about the effectiveness of the pace and method of their teaching. Hence, feedback from the students can be taken to know and adjust the speed and method of teaching, if required, for better learning.

g) learning new methods from discussions with students

The methods adopted by students for self-study and by other instructors while teaching select concepts can give an insight for more effective teaching.

h) freedom of choice for deciding the type of learning method for select subjects in course curriculum.

CONCLUSION

The types of approaches to impart education, traditional learning, digital learning and hybrid or the combination of the traditional and have been discussed and it can be concluded from this study that an effective way of imparting education can be the combination of the traditional and e learning, through incorporating the use of technology based tools and techniques in the teaching of concepts and in interaction with the students.

This has been seen to make the learning more interesting, engaging and resourceful, enhancing innovative thinking and freshness in the learning process. In keeping up with the technological trends and to enhance the effectiveness of ways of imparting education, prominent Universities and institutes are incorporating technology integration in the conceptual teaching of their course curriculum. Thus, e learning combined with conceptual learning can be incorporated in the curriculum for an effective learning experience for the students as well as for a more enriching experience for the educators.

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Biznes informatikada hibrid öyrətmə metodu

Xülasə

Şəbəkə təhlükəsizliyi protokolu internetin sürətli inkişafına bağlıdır. Bu kompüter rabitəsinin təhlükəsizliyi və sabitliyini daha da artırır. Kompüter rabitəsi texnologiyasının tətbiqində şəbəkə təhlükəsizliyi protokolunun rolu çox böyükdür. Bu da hesablama rabitəsi mühitinin yaxşılaşmasında əhəmiyyətə malikdir. Bu protokolun vasitəsilə kompüter rabitəsinin təhlükəsizliyinə zəmanət verilməsi məqalədəki fayət qədər əsaslandırılmışdır.. CTC sistemində bu yazı kompüter təhlükəsizliyi protokolunun praktik tətbiqini təhlil edir. Praktik işdə təhlükəsizlik protokolu məlumatları müxtəlif üsullarla açarların paylanması, şəxsiyyətin

autentifikasiyası, məlumatların şifrələnməsi şəklində sistemə daxil edir. Bu yazı ilk növbədə ümumi təhlükəsizlik protokollarını təhlil edir. Bütün bunlar məqalədə ətraflı surətdə araşdırılmışdır.

Açar sözlər: DIMBI layihəsi, hibrid tədris, ənənəvi təlim, İKT, portal.

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Гибридный метод обучения в бизнес-информатике

Резюме

Протокол сетевой безопасности возник в связи с бурным развитием Интернета. Это еще больше повышает безопасность и стабильность компьютерной связи. Протокол сетевой безопасности играет важную роль в применении технологий компьютерной связи. Это также играет роль в улучшении среды компьютерной связи. Мы можем гарантировать безопасность компьютерной связи посредством этого протокола. В данной статье анализируется практическая реализация протокола компьютерной безопасности в системе СТС. В практической работе протокол безопасности вводит данные в систему в виде распределения ключей, аутентификации личности и шифрования данных различными способами. В этой статье сначала анализируются распространенные протоколы безопасности. Кроме того, это также играет роль при анализе протоколов безопасности статей.

Ключевые слова: *проект DIMBI, гибридное обучение, традиционное обучение, ИКТ, портал.*