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A CONSTRUCTIVISM APPROACH TOWARDS INTEGRATION OF ICT FOR COLLABORATIVE LEARNING

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Abstract

This paper highlights on constructivism approach by integrating ICT for collaborative learning. Constructivism transforms the learner from a passive recipient of information to an active participant in the learning process. The ICT integrated tools provides learning opportunities with which learners formulate and test their ideas, draw conclusions and inferences, and pool and convey their knowledge in a collaborative learning environment.Learners construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook. The ICT integrated collaborative learning techniques, help learners to promote content knowledge, critical thinking, and problem-solving skills.

Keywords: *Constructivism Approach, ICT, Collaborative Learning*

Introduction

Constructivism promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas. Application of both theoretical input and practical knowledge is the integral part of constructivism. It believes that all knowledge is constructed on the basis of preexisting knowledge. Learnerslearn how to articulate their ideas clearly as well as to collaborate on tasks effectively by sharing in groups. Students exchange ideas and learn to "negotiate" with others and to evaluate their contributions in a socially acceptable manner. They control their own learning process, and they lead the way by reflecting on their experiences. This process makes them experts of their own learning. This is essential to success in the real world, since they will always be exposed to a variety of experiences in which they will have to cooperate and navigate among the ideas of others by using different ICT based learning tools for collaborative learning.

Concept of Collaborative Learning

Collaborative learning is an umbrella term for a variety of approaches in education that involve joint intellectual effort by students or students and teachers. Collaborative learning refers to methodologies and environments in which learners at different performance level

engage in a common task (like solving a problem, complete a task, or create a product etc.) in which each individual depends on and is accountable to each other.

Collaborative learning follows constructivism approach.By grounding learning activities in an authentic, real-world context, constructivism stimulates and engages students. It involves use of small groups so that all students can maximize their learning and that of their peers.When students review and reflect on their learning processes together, they can pick up strategies and methods from one another.It is a process of shared creation: two of more individuals interacting to create a shared understanding of a concept, discipline or area of practice that none had previously possessed or could have come to on their own. According to Gerlach, "Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves (Gerlach, 1994). It is through the talk that learning occurs."

A set of assumptions about the learning process (Smith and MacGregor, 1992) underlies them all:

1.Learning is an active process whereby students assimilate the information and relate this new knowledge to a framework of prior knowledge.

2. Learning requires a challenge that opens the door for the learner to actively engage his/her peers, and to process and synthesize information rather than simply memorize and regurgitate it.

3. Learners benefit when exposed to diverse viewpoints from people with varied backgrounds.

4. Learning flourishes in a social environment where conversation between learners takes place. During this intellectual gymnastics, the learner creates a framework and meaning to the discourse.

5. In the collaborative learning environment, the learners are challenged both socially and emotionally as they listen to different perspectives, and are required to articulate and defend their ideas. In so doing, the learners begin to create their own unique conceptual frameworks and not rely solely on an expert's or a text's framework. Thus, in a collaborative learning setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and actively engaged. They learn more, and enjoy learning more when they are actively involved, rather than passive listeners.

6. Collaborative learning processes can be incorporated into a typical class in a variety of ways. Some require a thorough preparation, such as a long-term project, while others require less preparation, such as posing a question during lecture and asking students to discuss their ideas with their neighbours. As Smith and MacGregor state, "In collaborative classrooms, the lecturing/listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material." Regardless of the specific approach taken or how much of the ubiquitous lecture-based course is replaced, the goal is the same: to shift learning from a teacher-centred to a student-centred model.

Constructivism seeks to connect theory to practice and views the student as "thinker, creator, and constructor" of his own knowledge .Proponents of collaborative learning claim that the active exchange of ideas within small groups not only increases interest among the participants but also promotes critical thinking.There is persuasive evidence that cooperative teams achieve at higher levels of thought and retain information longer than learners who work quietly as individuals. The shared learning gives leaners an opportunity to engage in discussion, take responsibility for their own learning, and thus become critical thinkers.In constructivist classrooms, students create organizing principles that they can take with them to other learning settings.

Collaborative Learning is a relationship among learners that requires positive interdependence (a sense of sink or swim together), individual accountability (each of us has to contribute and learn), interpersonal skills (communication, trust, leadership, decision making, and conflict resolution), face-to-face interaction, and processing (reflecting on how well the team is functioning and how to function even better) and is based upon some principles:

1. The learner or student is the primary focus of instruction.
2. Interaction and "doing" are of primary importance
3. Working in groups is an important mode of learning.
4. Structured approaches to developing solutions to real-world problems should be incorporated into learning.

ICT integrated collaborative learning

The constructivism classroom relies heavily on collaborative learning. There are many reasons why collaboration contributes to learning.Learnersconstruct their own understanding

and knowledge of the world, through experiencing things and reflecting on those experiences.Learners learn by experimentation, and not by being told what will happen. They are left to make theirown inferences, discoveries and conclusions.It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner, therefore, constructs his/her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged by using different ICT integrated tools for collaborative learning.

The ICT integrated tools for collaborative learning are as follows

1.Google Docs and Drive

"Google Drive is a file storage and synchronization service provided by Google, which enables user cloud storage, file sharing and collaborative editing." Google Drive, is also the host of Google Apps which includes a suite of productivity and collaboration tools. Learner can store any type of file on Google Drive. Learner can keep pictures, stories, designs, drawings, recordings, videos – anything. Google Docs is an online version of Microsoft Word, PowerPoint and Excel. In Google Docs they are called Google Document, Spreadsheet and Presentation. There are two methods in which files can be created in the Drive. The first method is by creating an empty file from scratch. This can be done by simply clicking on the "CREATE" button. The second method is by uploading an existing file onto Drive and editing it afterwards. We can only do editing on a Google Docs file and not on a Microsoft Word document. One of the most powerful features of Google Docs is that it is a collaborative tool. Google Docs allows to have multiple people editing the same files at the same time and ensure that all modification can be seen by all editors. This is useful when we have a single document that requires multiple input from different users for example program agenda.

2.Social Bookmarking

Social bookmarking is a centralized online service which allows users to add, annotate, edit, and share bookmarks of web documents. It's a tagging a web page with a web-based tool. The bookmarks are online, learner can easily access them anywhere they have an internet connection and share them with friends. In fact, social bookmarking sites are being used as intelligent search engines.Unlike file sharing, social bookmarking does not save the resources themselves, merely bookmarks that reference them, i.e. a link to the bookmarked page. Descriptions may be added to these bookmarks in the form of metadata, so users may

understand the content of the resource without first needing to download it for themselves. Such descriptions may be free text comments, votes in favor of or against its quality, or tags that collectively or collaboratively become a folksonomy. Folksonomy is also called social tagging, "the process by which many users add metadata in the form of keywords to shared content".

This technology offers knowledge sharing solutions and a social platform for interactions and discussions. These tools enable learners to collaboratively underline, highlight, and annotate an electronic text, in addition to providing a mechanism to write additional comments on the margins of the electronic document. For example, Delicious could be used in a course to provide an inexpensive answer to the question of rising course materials costs. RISAL (Repository of InteractiveSocial Assets for Learning) is another social bookmarking system used for supporting teaching and learning at the university level.

Social bookmarking tools have several purposes in an academic setting including: organizing and categorizing web pages for efficient retrieval; keeping tagged pages accessible from any networked computer; sharing needed or desired resources with other users; accessing tagged pages with RSS feeds, cell phones and PDAs for increased mobility; allowing librarians and instructors the capability to follow students' progress; and giving students another way to collaborate with each other and make collective discoveries.

3.Social Networking

A social network is defined as a chain of individuals and their personal connections and social networking is the practice of expanding the number of one's business and/or social contacts by making connections through individuals, often through social media sites such as Skype,Facebook, Twitter, LinkedIn and Google+.Depending on the social media platform, members may be able to contact any other member. In other cases, members can contact anyone they have a connection to, and subsequently anyone that contact has a connection to, and so on. Some services require members to have a preexisting connection to contact other members. Social networking services are interactive.Internet-based applications and user-generated content, such as user-submitted digital photos, text posts, "tagging", online comments, and diary-style "web logs" (blogs), is the lifeblood of the SNS organism. Through social networking, interrelated cyber communities can be created in order to help individuals find contacts that may be useful to them but otherwise may be very unlikely for them to meet.

4.Instant Messaging

Instant messaging, often shortened to IM or IM'ing, is the exchange of near real-time messages through a stand-alone application or embedded software. IM sessions usually take place between two users in a private, back-and-forth style of communication.Instant messaging (IM) is a type of online chat that offers real-time text transmission over the Internet. Some IM applications can use push technology to provide real-time text, which transmits messages character by character, as they are composed. More advanced instant messaging can add file transfer, clickable hyperlinks, Voice over IP, or video chat.For IM'ing to work as intended, both users must be online at the same time, although nearly all instant messaging platforms now allow asynchronous interactions between online and offline users. Because of its messaging or even conferencing feature individually or in group it could be a good discussion and collaboration platform. Some of such platforms are Facebook, Facebook messenger, Whatsappetc.

5.Forums

If learner needs to communicate outside of the office, across vast distances, or with a lot of people, a forum is the perfect facilitator. With an online interactive forum, learner can post a topic, discuss critical ideas and help retain knowledge in a central place. Any group project involves discussions, and unlike emails, all forum topics are available in a central location. Through forums, exchanging information with colleagues can make big ideas come alive. The facilities are: start a new discussion (post a topic, edit/delete a topic), engage project users (post a reply, view replies, update comments), organize topic across categories, (add a forum category, edit/delete a forum category), watch/ un-watch topics and thus provide benefits like improve decision making through access to relevant knowledge, interact with team members scattered across the globe, escalate critical bugs and get an instant solutions from experts, tap the knowledge, skills, and ideas in their team from a single place.There are free software for this purpose like phpBB, bbpress, MyBB etc.

6.Wiki

A wiki is a website on which users collaboratively modify content and structure directly from the web browser.A wiki Web site operates on a principle of collaborative trust. The simplest wiki programs allow users to create and edit content. More advanced wikis have a management component that allow a designated person to accept or reject changes. The best known example of a wiki Web site is Wikipedia.In a typical wiki, text is written using a

simplified markup language and often edited with the help of a rich-text editor.A wiki is run using wiki software, otherwise known as a wiki engine. A wiki engine is a type of content management system, but it differs from most other such systems, including blog software, in that the content is created without any defined owner or leader, and wikis have little implicit structure, allowing structure to emerge according to the needs of the users.

7.Blog

"Blog" is an abbreviated version of "weblog," which is a term used to describe websites that maintain an ongoing chronicle of information. A blog features diary-type commentary and links to articles on other websites, usually presented as a list of entries in reverse chronological order and may include images videos also. Blogs range from the personal to the political, and can focus on one narrow subject or a whole range of subjects.A blog is basically a journal that is available on the web. The activity of updating a blog is "blogging" and someone who keeps a blog is a "blogger.During the new blog creation process, learner may be asked whether they want to make their blog private.If they use WordPress.com, they will find that there's a theme called P2 that's especially suited for turning their new blog into a collaboration tool. It can be applied to their blog by selecting the "Appearances" menu and then the "Theme" menu.Once collaboration site is set up and marked as private, the next step is making it accessible specifically to those team members who will be working on their project. Learner can add blog authors as well as blog readers there. On TypePad, learner can invite people to contribute to their blog over email in the "Authors" page under the "Edit Configuration" menu. Similarly, on a WordPress.com blog, learners have the ability to add more people to the site. Because of the way that different user roles work within WordPress, learner will likely want to make most of their team members either Editors or Authors; Administrators can change anything about their collaboration site, Editors can add, edit or remove any content and Authors can only add, change or remove their own content.

Conclusion

ICT integrated tools provides opportunities for constructivism approach for collaborative learning. Constructivism promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas. Students must learn how to articulate their ideas clearly as well as to collaborate on tasks effectively by sharing in group projects. Students must therefore exchange ideas and so must learn to "negotiate" with others and to evaluate their contributions in a socially acceptable manner. This is essential to

success in the real world, since they will always be exposed to a variety of experiences in which they will have to cooperate and navigate among the ideas of others.ICT integrated tools offer a borderless world, challenging human intellect, imagination and initiative to explore learning in a different way. It will lead learners in their march towards better and higher quality of life.

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