

USING ON-LINE GROUP DISCUSSION FOR THE TEACHING AND LEARNING OF BIOLOGY IN COLLEGES OF EDUCATION IN NIGERIA.

Ahmed, Rihanat Aduke

Ahmed, Mulkah Adebisi

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Bello, Ganiyu

Department of Science Education, University of Ilorin, Nigeria.

Abstract

The paper describes how the on-line group discussion could be used in the teaching and learning of biology at post secondary school level of education in Nigeria. The paper is a review work on the on-line group discussion and has discussed the characteristics of different types of on-line groups, how to set on-line group for teaching and learning in biology, important things to keep in mind when using online group and benefits of on-line discussion groups for Biology teachers and students. Based on the benefits of the on-line group discussion, it was recommended that on-line group discussion be used by both Biology teachers and students for effective teaching and learning.

Keywords: *On-line, group discussion, computer based test and learning*

Introduction

The traditional classroom system limited the access to relevant information for the students to printed documents. The lectures and discussions between lecturers and students require their physical presence. The instructional and learning activities are carried out face to face. In recent time, *e-education* is on the rise. *E-education* comprises of on-line learning, blended- learning, web-quest, on- line discussion group, among many others. These have opened new gateways of acquiring knowledge for the students to access the relevant documents that are needed for learning and for perfect understanding. For instance, majority of students that enter the universities and

Colleges of Education in Nigeria in few years back, already have some degree of experience in handling computers and acting in virtual environments such as in Computer based- test(CBT), browsing, communication via e-mail, forums and chat systems and searching the net for information relating to academics.

Also, on the part of the lecturers, lecture method is dominant. But with the *e-education* effective teaching is enhanced with convenience and flexibility effective on-line instruction involves translating the unique benefits of face-to-face interaction to on-line activities.

On-line group discussion, which may also be called on-line forum discussion, is one of the internet services that both teachers and students could use in the teaching and learning of various subjects. It involves tools that allow individuals to access a virtual environment remotely. Giesbers, Rienties, Tempelaar and Gijssels (2013). Here, the participants can post their views, questions and concerns, and receive feedback from other participants and/or from the Instructor. It is one of the major contemporary factors in an educational set up whose benefits are shaping the global economy and producing rapid changes in the society. (/body-teach-files, 2014).

The goals of Tertiary Education in Nigeria include the provision of accessible, relevant, and high quality Education. Online Group Discussion is one of such accessible instruction. There is no way to achieve the ultimate goal of the Tertiary Education in Nigeria without consideration for the transformation of face-to-face delivery of instruction to online. More so, one of the Objectives of Biology Education, is to inculcate positive scientific attitudes and values for scientific enterprise. Hence, to achieve this, there is need of using the group discussion online. Therefore, in this paper, the following sub-headings are discussed; -

- Characteristics of different types of on-line groups or forum
- How to set on-line groups or forum for the teaching and learning of biology
- Important things to keep in mind when using on-line group discussion
- Benefits of on-line group discussion to biology teachers and students

What is ON-LINE Group Discussion?

It is one of the ways of using global network for the teaching and learning. Its importance cannot be over emphasized. It provides many benefits for both lecturer and students. It makes teaching to be efficient because of the communication and collaborative activities between the lecturer and the students. The feedback of any instruction could be monitored and assessed without necessarily using textbooks or software, thus, changing the way the students learn.

Characteristics of Different Types of ON-LINE Groups or Forum

There are three types of on-line group discussion, namely;

- i. Synchronous e.g. chat rooms and online conferencing
- ii. Asynchronous e.g. forums and emails
- iii. A mixed type e.g. forums with chat.

Synchronous Group Discussion

In synchronous group discussion, on-line participants interact and discuss their opinions in real time. Chat-rooms are the most common tool in this type of on-line group discussion. In this setting, participants share their points of view synchronously as in a face-to-face focus group. They can be conducted in a private Web site and interviewers participate anonymously. Group size are usually small, to promote a more conversational style of discussion. The unique feature of the group is that; the participants work at the same time.

Characteristics of Synchronous Group Discussions

- Interaction seems more democratic because all participants have the same time to express their opinions, taking turns to speak spontaneously, without negotiating with the others.
- Many times it is more similar to a brainstorming session rather than a real group discussion. Participants interact intensely, continuously introducing new stimuli, ideas and topics.
- The speech is usually fragmentary and very quick, and moves more, in line of content, provoking sometimes, and episodes of misunderstanding.
- Discussion is more spontaneous than in other discussion formats and participants appear keener to disclose their private experiences and feelings. Participants tend to reveal their opinions directly, without roundabout expressions or metaphors.
- Given the secrecy and the unplanned nature of the conversation, periods of fiery and misconduct can take place.
- Requires a directive moderation style, given the intense and chaotic interaction.
- Moderation requires an individual with fast typing skills and some experience with this type of real time discussion.
- The participant can generate new ideas or solutions, to solve any identified problem.

Asynchronous Group Discussion

In asynchronous group discussion, participants do not need to be on-line at the same time, and can log into the discussion platform and write the

messages at any time of the day. Forums are the most common tool of this type of on-line group discussion. This can be conducted in a private Web site expressly set up for the research and interviewers to participate anonymously, usually hiding their identity behind a personal ID. Normally, participants are able to read all posted messages at any time and write their comments as a new message or in response to a specific message (reply).

Characteristics of Asynchronous Group Discussion

- Interaction is less frequent and intense.
- Discourse is better thought out. Participants tend to contribute to the discussion in a more rational manner and with well thought arguments.
- Tendency for monologues. Participants tend to contribute with little reference to the content of previous messages.
- Episodes of flaming and misconduct are rare.
- Requires little moderation and the moderator do not need to have much experience with this type of discussion.
- Given their nature, asynchronous group discussions seem to reach a detailed and well-meditated description of personal experiences.

Mixed Type Group Discussions

In mixed type group discussions, both synchronous and asynchronous discussions are combined. The combination of the two communication styles allows the integration of the two settings' potentials, getting over some of their respective limitations.

For instance, discussion can start with a forum during which participants log onto the site to write their comments at a convenient time for them. Then, interviewees can participate in an on-line chat. The starting forum permits members to get acquainted with the information system, the topic of discussion and with other participants. This also allows participants to share knowledge and to negotiate rules of interaction, promoting a sense of belonging to the group. The chat allows for a more interpersonal discussion.

Characteristics of Mixed Type Group Discussion

- Synchronous interaction is more organized and less fragmentary.
- Misunderstandings and disagreements are less frequent.
- Wider thematic discussion, from abstract and more rational reflections to accounts of concrete personal experiences.
- Episodes of misconduct and flaming are rarer, even on synchronous discussion.
- Styles of moderation need to be adapted to the discussion context.
- Given their nature, asynchronous group discussions seem particularly suitable when a broad and multidimensional description of the topic is sought.

How to Set On-Line Groups or Forum for the Teaching and Learning of Biology

How to Start

Getting started requires time, patience, planning and organization.

First thing to do when setting up on-line group discussion

The first step is to find out whether or not that group already exists. If it does, one might end up splitting the audience and so weakening both forums. Instead, one can become a regular contributor and then moderator to the existing group. If it does not, launch your own more specialist group.

Creating on-line Group

In almost all cases the teachers and the students' concerned will need an 'ID' or email account associated with the provider, which are free.

Setting up a forum or 'group'

Creating a hosted forum or 'group' is a straight forward process and the following points describe the basic steps.

1. Go to [wwwhttp://groups.yahoo.com](http://groups.yahoo.com)
2. Click the 'Start your group' today link.
3. Sign-in using ID (or create your own Yahoo! ID if you haven't already got one).
4. Find, either by browsing or searching, a suitable category that best describes your group.
5. Click the 'Place my group here' button – this categorizes your group.
6. Next, choose a name for your group, a group email address and then provide a short description of its purpose.

7. Click 'Continue' to move to the next step.
8. Don't be surprised if you are returned to this page and advised that the email address or Group name is already in use.
9. Keep choosing names and addresses until you find one that works for you.
10. Finally, confirm your Yahoo! Profile (used when other members of the group want to learn more about you), enter the security code and finally click 'Continue'.
11. That's it! Your group has been created and you are given its web and email addresses to advertise.

Once the on-line group or forum is created, there still are a few important tasks to do.

(a) Customizing the Group

Once the group is created, formulate the rules as terms and policy.

The first thing you need to do is to decide how people join the group. For a Yahoo! Group you have a choice of:

- Anyone can join (initial setting);
- People can join only with the approval of the instructor
- Specific time or period is attached

For instance, if yahoo group is used, and the topic or concept to be learnt involves problem- solving or any other sensitive matters, experts advised that option 2 can be chosen. participants can be vetted via separate e-mail or by phone conversation.

Next you need to decide who can post messages to the group

- Only group members - making it a private discussion group (the initial setting).
- Anyone - making it an open discussion group.
- The instructor - making it a newsletter.

The initial setting is recommended as this ensures that group members can discuss matters while knowing those who are 'listening' or 'Viewing'. As the group owner, you can change these options at any time, but do make sure you think things through beforehand and discuss any prospective changes with others.

The finishing touches

There are numerous ways to customize the look, feel and operation of your group. Take your time to look through and consider what is available and whether or not it will improve your forum.

For example, when someone new joins, you can have the system send them a Welcome message that may contain some background to the group, who it comprises and any instructions for posting, etc. Doing this helps to answer common queries about the group (so you don't have to answer them) and makes your new member feel welcome.

Be sure also to spend plenty of time getting used to the forum system, how it operates, and the management of posts and members. Ask a few friends to join the group, add posts, etc. and come to you with any queries they might have. This will help you become more familiar with the day-to-day management tasks.

Before you launch the Forum

Before you launch your forum, be sure to delete any of your text messages and posts these look untidy and may confuse new members. You should also have a few core people join the forum and start several discussions off so that when potential members visit they can see there is some activity and so will be more inclined to join in.

Launching the Forum

There are many factors that go into making a forum successful. It is vital that you have enough visitors and posts to sustain existing discussions and start new ones. Therefore make sure you advertise your forum at every opportunity and ensure that members do likewise. It is necessary to step in and add a few posts and send an email to existing and potential members reminding them of the forum and its purpose and perhaps outlining some of its recent activity.

Launching a forum is much like getting a spinning top going - it requires a lot of initial effort but once it is going, a gentle push now and again is all that is needed to keep it on track.

Forum Rules and Policy

Setting out some basic rules of behavior is essential for any forum, as it is the enforcement of these rules. Your rules should be clear and prominent on your website, but can be kept very simple. For example, here are the rules from Just Chat:

We do not permit:

- Sexual or offensive language or content
- Harassment of other users
- Abuse or disruption of our services
- The impersonation of Just Chat staff

- Advertising of third party services or websites, unless authorized by us in advance and in writing.

Legal Aspects

The legal aspects of running a forum are straightforward, the only important issues being copyright and privacy.

Copyright: the copyright in any user's contribution remains with the user. **Privacy:** you must ensure that personal information provided by users on registration is secure. If you are using a hosted forum, this will always be the case.

Important things to keep in mind when thinking about using on-line group discussion tools

There are various Online tools for instruction; among which are Message Board Forum, Chat, Email, Wiki, White boarding, Chat, VoIP, Video and many others. The following points would be a guide:

- Group discussions should be held in sites that are familiar and considered safe by the students and the teachers
- A semi-structured interview guide should be used to moderate all discussions.
- Participants must be well informed about the purpose and procedure, and reassured about privacy and confidentiality issues.
- Determine whether or not participants are required to identify themselves.

Benefits of ON-LINE Group Discussion to Biology Teachers and Students

Biology Education has been defined by several authors. Georgewill (2006) defined biology education as the education that serves both individuals and social role

by inculcating knowledge and right attitude for individual and society at large. This is obvious from the fact that the role of biology to the national development cannot be overemphasised, because it serves as foundation and pre-requisites for many professional courses like Medicine, Pharmacy, microbiology, nursing and many others.

Also, for effectiveness and efficiency of biology education at all levels, there is need for the integration of information and communication technologies, (ICTs) into biology education. This is necessary and also requires urgent attention because the ICTs have the potential to enhance access to quality of research, teaching and learning. The ICTs is now a central focus in Education, biology inclusive, and its integration into the classroom situation have come to replace and challenge the traditional methods that are involved in the teaching and learning processes of biology.

Benefits of on-line Discussion Group to the Biology Students

- i. Motivating students to research and get information that could be used to solve personnel and societal problems. For instance, such personal problems may include effect of drug abuse on one's health, smoking and health implications among others while the societal problems that could be solved may include environmental management, preventing greenhouse effect, pollution, deforestation and so on.
- ii. Communication with other students and variety of people within a particular community
- iii. Help students to make choice about different learning processes, undertake tasks and gain feedback quickly and efficiently. For example students can create their own new web page, provide a topic of interest and investigate further on the internet to create their own cyber art collection.
- iv. It forms the basis for collaboration learning among the students in such a way that it makes it easier to create environment in which students can learn with discoveries, receive feedback, and continually refine their understanding and build new knowledge.
- v. With on-line group discussion among students, it is possible to receive and send messages, document, assignment, pictures and sound to other users in any other places and at any time. For example, students can receive and send their assignment and discover something of interest to the entire group.
- vi. With on-line group discussion, students can analyze and collate and publish articles and once it is published on the internet, they are available for world viewing, comments, suggestions and feedback can be obtained quickly from all over the world, these ensure students in such group discussion that their publications are accurate, easy to read and interesting.

Generally, on-line group discussion tools stimulate the context of focus groups, but present the main characteristics of text-based computer-mediated communication, which are:

- Text based communication and the absence of nonverbal elements of face-to-face communication, although emoticons and abbreviations can be used to express general feelings.
- Anonymity of the participation, as participants are usually identified by an identification number (ID) or nickname to hide their real identity. This is necessary for the privacy of the participants.
- Less cooperation in discourse construction and frequent occurrence of dysfunctional communicative behaviours. For instance, lurking, which consists of observing the discussion without taking part and is more frequent in forums, or flaming, a communicative style characterized by swearing and insults – more common in chats.
- Contributions may be more superficial than those offered in a traditional focus group as the pace is faster and more informal.
- Lower cost, shorter time for data gathering and storage/coding, and the opportunity to overcome geographical barriers.

Moderation

Who or what is a 'Moderator'?

An on-line forum is a powerful tool for allowing people from geographically different places to contribute easily to a discussion. However, like any form of discussion or debate, it is vital that it stays

on the topic being discussed, and that people follow the forum rules and behave in an appropriate manner. To ensure this is the case a forum can have one or more moderators.

Unlike the owner of a forum, who is responsible for its operation, a moderator performs a similar role to that of the chairperson and is essential to the success of any forum. He or she is responsible for ensuring that the discussion remains on topic and that everyone has the chance to voice their opinions. They are also responsible for ensuring that contributors behave themselves and in extreme situations may remove people from the forum or have their comments amended or removed. Finally, a moderator should take the time to make new contributors welcome and act where necessary to promote discussion and keep the forum active.

Being a moderator is not an easy job - it requires tact and patience as well as the ability to anticipate problems and deal with them before they arise. A moderator also receives little or no reward for their work, yet there is a great deal of satisfaction to be had in helping start, grow and steer an on-line community of people with a related interest.

Challenges for the Moderator

On-line forums also introduce a number of challenges for moderators. With some forum systems, moderators must approve each and every item that is posted. This is fine if you have a small community of people in the same time zone, but if your forums are drawing together people from all over the world or you get a particularly 'hot topic', it may become difficult to keep

an eye on all of the activity that is going on. As a result either something may slip through or the forum cannot be sustained.

Conclusion

On-line group discussion is one of *e-education* processes that can be used by both biology teachers and their students. When used appropriately, it would bridge the gap of face-to-face instruction which is dominant in the traditional setting. It would change the teachers' style of teaching and expose students to the new ways of learning.

Recommendations

With the enormous benefits from on-line learning and teaching strategy, it is recommended that it should be incorporated in teaching so that there would be effectiveness and great improvement in biology subject.

All biology lecturers at post-secondary level of education should imbibe the use of on-line group discussions as instructional strategy due to its benefits in teaching.

The biology students at higher level of education should know how to use on-line group discussion for their learning purposes for better achievement.

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