Feedback on Using **Virtual Classrooms** for Teaching **Blended CS&IT Courses** at Taif University

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Using Virtual Classrooms for Teaching Blended CS&IT Courses

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Study Background

• At Glance!
  “The inclusion of learning technologies within education in all levels is becoming a reality; it is something institutions, departments, and individual members of staff cannot ignore it”
  (Barnett, Brunne, Maier, & Warren, 2005)

• Technology forces educators to change the way they teach!
  • problem-solving exercises, cooperative student projects, informal group work, simulations, case studies, and role playing
  • enhancing teachers’ knowledge and practice of technology positively improves teaching and learning (Bradshaw, 2002)
Study Background

• **LMS!**
  - Using learning management system (LMS) facilitates the *interaction* among the learners, and the *feedback* between the learners and instructors.

• **Taif University**
  - Amongst many Saudi universities, Taif University makes use of the **Blackboard**, one of the famous learning management systems (LMS) around the world.
  - Deanship of E-Learning provides support to both of the **staff** and the **students**
  - Automatic course openings, student enrollments, and subscription to different tools and courses.
  - Evidences have shown that LMS can help instructors improve the efficiency of course delivery and course management.
Blended Learning

- **Blended Learning**
  - “replacing seat time in courses with online activities to achieve learning objectives” (VanDerLinden, 2014)

- **Blended learning in higher educational institutions:**
  - formal educational scheme in which students learn using traditional *face-to-face* classes combined with *online classes* or at least *computer-mediated activities*.
  - vary in using online activities and technology-based enhanced teaching methods to achievement outcomes (Chou & Chou, 2011; VanDerLinden, 2014)
  - **LMS** can be considered as an *ideal enabler* for blended learning as it makes an important advancement to learning practice (Chou & Chou, 2011)
Blended learning as chain of best aspects from human-based learning and technology-based revolution.
Practice of blended learning includes elements like online and traditional learning environments, technology, and media for learning content delivery (Deperlioglu & Kose, 2013).
Virtual Classrooms

- According to the Encyclopedia of the Sciences of Learning
  - A virtual Classroom is a private online meeting space for synchronous (real-time) learning activities.
Virtual Classrooms

- Protocol of virtual classrooms

4. Connect

1a. Request Class information

1b. Request Class information

2. Query Database

3a. Return Class information

3b. Return Class information

1. Teacher

2. Class Manager
- manages the Class database

3. Class Server

4. The Class database

Students

Teacher
The sample was represented by two courses:

- The first course is entitled **Web Systems**
  - **two** sections with 44 and 47 enrolled students, respectively.
- The second course entitled **Computing Ethics**
  - **four** sections with the following numbers of students: 35, 38, 72, and 49, respectively.

- \( N = 285 \)
The animation is already done for you; just copy and paste the slide into your existing presentation.

- **Theory vs. Practical**
  - Theory: sample courses was designated to give each section 42 hours
  - Practical: Web Systems course included an additional two hours of lab exercises.

- **The Blend!**
  - Each course in the sample was composed of:
    - 31-hour face-to-face classes
    - plus 11-hour online classes.
    - Such division makes no more than 25% of the total hours to be conducted online according to the regulations by the ministry of higher education (MOHE) in Saudi Arabia.
Plan of Blended Course

• **The Blended Teaching Hours!**
  - Each section was taught a 2-hour face-to-face lecture via a weekly traditional classroom.
  - Besides, each section was given a 1-hour online class via the Blackboard Collaborate in the same week.
  - Online sessions were usually held after the face-to-face classes.

• **The aim!**
  - to support the given theoretical concepts
  - to solve more problems
  - to introduce and even touch interesting topics or discussions.

• **In the Syllabus!**
  - stated clearly in the course syllabus given to each student
  - described verbally to each section during the first lecture of each course
• **Steps to Get Ready!**
  • Steps to enter the virtual classrooms were all described to the students using Twitter announcements through a course hashtag.
  • Students were guided to explore the components of a virtual classroom.
  • Participants’ user interface of Blackboard Collaborate was explained to the students.
  • Students were assisted and guided on how to interact with the virtual classrooms using interaction and emotions tools.
Exploration of Virtual Classroom

User Interface of Blackboard Collaborate

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Background

Blended Learning

Virtual Classrooms

Study Sample

Blended Course Plan

Test/Trial Session

Reflection Quantitative

Feedback Qualitative

Future Remarks
The animation is already done for you; just copy and paste the slide into your existing presentation.

Blackboard Collaborate Interaction Tools

Background
- Blended Learning
- Virtual Classrooms
- Study Sample
- Blended Course Plan
- Test/Trial Session
- Reflection
- Quantitative Feedback
- Qualitative Feedback
- Future Remarks

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• **Test Session**
  - Students were helped and assisted by the instructor during the office hours to solve problems and download Java in order to run Blackboard Collaborate via the test session.
  - Three simple steps.

• By the beginning of the second week of each course, the learners get ready to use the virtual classrooms successfully.
A questionnaire to evaluate:
- students’ understanding of the topics discussed using the virtual classrooms
- students’ ability to involvement with the virtual class
- the difficulties faced by the students.

Question items:
- Such factors were assessed using 7 different questions (or phrases) in the questionnaire
- written in English and Arabic

Polling tool in the Blackboard Collaborate:
- students’ responses were obtained concurrently and analyzed instantly.
- The poll was given after the last online lecture, using a session that joins both sections for getting reflection and evaluation.
### Reflection: Quantitative Method

**Phrases** | **Student Evaluation**
--- | ---
1. I am able to understand the main content of during the virtual classroom.  
أستطيع فهم محتويات الدرس الأساسية في محاضرة الفصول الافتراضية. | ![Graph](image)
| a | 32/52 (61%) |
| b | 10/52 (19%) |
| c | 2/52 (3%) |
| d | 8/52 (15%) |
| e | None |
2. I am able to understand the detailed explanation of each point being covered in the virtual classroom.  
أستطيع فهم كافة التفاصيل التي يتم شرحها لكل نقطة يتم تغطيتها خلال الدرس في الفصل الافتراضي. | ![Graph](image)
| a | 13/60 (21%) |
| b | 22/60 (36%) |
| c | 13/60 (21%) |
| d | 1/60 (1%) |
| e | 1/60 (1%) |
| None | 10/60 (16%) |

Respondents = 60 students (52 students enrolled to the session at the beginning, then the number was increased to 62 during the poll).
### Reflection: Quantitative Method

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am able to do in-class exercises/activities during online sessions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>أستطيع أداء التمليحات والسؤال التي يطلب حلها خلال المحاضرة عن بعد.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to hear the lecturer and understand the talk.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>أستطيع سماع المحاضر بشكل جيد وفهم النقاط التي يدور الحديث حولها.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Reflection: Quantitative Method

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lecture is organized and slides are easy to read and understand.</td>
<td>A</td>
<td>44/62 (70%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>7/62 (11%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2/62 (3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>1/62 (1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>8/62 (12%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>2/62 (3%)</td>
<td></td>
</tr>
<tr>
<td>The lecturer uses display mode then discussion via the virtual classroom.</td>
<td>A</td>
<td>47/65 (72%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>7/65 (10%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>2/65 (3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>9/65 (13%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>9/65 (13%)</td>
<td></td>
</tr>
<tr>
<td>I do not face difficulties in using virtual classrooms.</td>
<td>A</td>
<td>52/65 (80%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>4/65 (6%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>3/65 (4%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>6/65 (9%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>6/65 (9%)</td>
<td></td>
</tr>
</tbody>
</table>
Reflection: Quantitative Method

• **Results**
  • **Understanding factor**
    • 61% of students strongly agree and 19% agree: *able to understand the main content or points*
    • 3% of the students are neutral and 8% of the students could not respond.
    • 57% of students strongly agree, 21% are neutral, and 2% are disagree/strongly disagree: *able to understand the detailed explanation of each point*.
    • Above 70% of students said that:
      • Lecture is organized and slides are easy to read & understand.
      • Lecturer used the display teaching strategy then the discussion via the virtual classroom which basically supports their understanding.

Such results are highly encouraging: the learners are able to understand very well through the online classes.
The results indicate that the learners can sufficiently involve into the class.
• **Results**
  
  • **Weaknesses factor**
    • reported difficulties were very few
    • above 86% of the students confirmed that they do not face difficulties in using virtual classrooms.
    • Most of these difficulties were reported **at the beginning of the online sessions** such as downloading Java, or setting up the mobile apps to run the virtual classrooms smoothly.
One Question... Several Interactions!

كيف تقيمون استفاداتكم من الفصول الافتراضية؟
هل واجبتي مشاكل؟
ماهي انطباعاتكم واقتراحاتكم للجلسات المستقبلية باذن الله؟

• Via Twitter, course hash tag.
• Several students responded.
• One student said “the class was awesome and delightful and we have perceived information quite peacefully at home”.
• Some students said using virtual classrooms is a new experience and good.
• They also reported that there were no big issues/problems during the virtual classrooms, the slides were clear and the sound too.
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Background Blended Learning Virtual Classrooms Study Sample

Test/Trial Session Reflection

Quantitative Feedback Qualitative

Future Remarks

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1. @athbataimbasam @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
2. @ReemoUudvUu @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
3. @Milmx_3 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
4. @EN__9 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
5. @ReemOufi @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
6. @Gh1aa2022 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
7. @Fatgo @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
8. @ghaid1993 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
9. @CLASSICO_A_ @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
10. @G3jobh @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
11. @Geedo2012 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
12. @nada20135 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.
13. @Afnan_3 @SalhaAlzahrani @لقد أصبح التعليم التفاعلي متفائلاً ومثيراً.

A screen shot by a student who said “It was so nice. I am happy for using new technology and new ways in education as there are no problems in understanding. Thank you so much doctor.”
• **Concluding Remarks**
  
  • Students’ feedback was greatly promising and reflected their ability of understanding and involvements.
  
  • Few students face difficulties or express weaknesses in using the virtual classrooms.
  
  • Conducting a minimum of 15% of CS and IT courses online using virtual classroom environment is very useful in order to allow for more active and interactive roles of the learners.
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