



INTERNATIONAL
ASSOCIATION
FOR BLENDED
LEARNING

Proceedings of the
6th WORLD CONFERENCE ON BLENDED
LEARNING (WCBL 2021)

“Blended Learning in the New Normal: The Future of Education and Training”

May 6-7, 2021

Subthemes:

1. Blended Learning Technologies and Tools in Learning and Training
2. Blended Learning in Primary, Secondary, High Schools, and Higher Education
3. Government and Corporate Training



Edited by Agnieszka Palalas
& Chrysoula Lazou



Blended Learning in the New Normal: The Future of Education and Training
Proceedings of the 6th World Conference on Blended Learning (2021)

EDITED BY

Agnieszka Palalas

Chrysoula Lazou

BLENDED LEARNING IN THE NEW NORMAL: THE FUTURE OF EDUCATION AND TRAINING

Edited by

Agnieszka Palalas & Chrysoula Lazou

This book first published 2021

International Association for Blended Learning

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(ISBN 978-618-82543-5-0)



WELCOME NOTE – Dr. Aga Palalas

The International Association for Blended Learning (IABL; <https://iabl.org>) is a non-profit organization with a goal to transform global education through on-going contributions to the field of blended learning. The IABL team aims to promote excellence in teaching, training, and research in blended learning through the engagement of international scholars and practitioners to meet the needs of today's and future global learners. IABL is the custodian of the annual World Conference for Blended Learning (WCBL) series organized as a key knowledge and research exchange forum where professionals and practitioners share their expertise, experience, and research in blended learning. The annual WCBL conference is also a networking event for participants from all over the world who represent a variety of contexts, cultures, and perspectives.

On behalf of IABL and the WCBL2021 Conference Organizing Committee, it is my great pleasure to present to you the 6th Annual World Conference on Blended Learning (WCBL2021) Proceedings. Due to the global pandemic and the resulting travelling restrictions, this year's conference was held online May 6 – 7, 2021.

The WCBL conference series continues to build upon a tradition of scholarship and practice in innovative approaches to teaching and learning. Blended learning has grown exponentially in recent years and is bound to increase its presence as a result of the rapid global move into online education over the last two years. Blended learning integrates, in a purposeful fashion, face-to-face practices with online and mobile learning, resulting in a student-centered, engaging and interactive learning environment unrestricted by location, time and context. Its unique affordances as well as challenges are reflected in this year's conference and its proceedings. The presentations showcased during WCBL2021 represent a range of interests and perspectives but are all characterized by a common thread: the engagement of international scholars and practitioners sharing their knowledge to further excellence in teaching and research in this innovative approach to education.

The conference sought to incorporate the diverse perspectives of researchers, teachers, professors, administrators, trainers, instructional designers and developers, technology experts, and students representing a range of educational learning and training contexts, as well as socio-cultural backgrounds. Contributions from around the globe representing all educational sectors and industries are included in the program. Innovative blended learning research, solutions, strategies, and practices are presented and discussed by leaders in the field. Current and ongoing research findings resulting in novel ideas, original practices, and experience are also shared. The WCBL conference always invites critical inquiry and debate on theories, approaches, principles, applications, and the implementation of blended learning across educational and training settings.

The overarching WCBL2021 theme was *Blended Learning in the New Normal: The Future of Education and Training*.

The sub-themes included:



- Blended Learning Technologies and Tools in Learning and Training
- Blended Learning in Primary, Secondary, High Schools, and Higher Education
- Government and Corporate Training

The conference presentations focused on the following topics of interest:

- Blended learning in research and practice
- Design, pedagogy, and future of blended learning
- Technology in blended learning
- Blended approach to corporate training and non-profit associations
- Blended learning in language acquisition and special education
- Blended learning in inclusive learning environments
- Blended learning in K-12, higher education and teacher professional development
- Blended learning for refugee and immigrant populations
- Blending learning during COVID-19 and post-COVID settings
- Digital wellness in blended learning

This collection comprises the contributions of this year's conference. Proposals from across the globe and all educational sectors were submitted and carefully considered for inclusion in the conference program. They were reviewed by at least two referees from the WCBL2021 international Program Committee based on their abstracts, and the full manuscript - in case of long and short papers. They were evaluated for the originality of the work, the validity of the results, chosen methodology, writing quality and the overall contribution to the field of blended learning. The authors were encouraged to incorporate the reviews and feedback in preparation of the final versions of their submissions that are presented in this collection.

As a result, the WCBL2021 proceedings include the following categories:

- Plenaries
- Research/Practitioner presentations abstracts
- Long and short papers (full text included)

All WCBL2021 sessions were delivered virtually from far corners of the world. They were moderated by a session chair to ensure optimal interaction between the virtual presenter and the audience. In total, 22 submissions were selected and presented along four plenary addresses. Four world-renowned experts presented their plenaries, namely, Dr. Avgoustos Tsinakos (Greece), Dr. Andrés Chiappe Laverde (Colombia), Dr. Eman. M. AL. Rowaythi (KSA), Dr. Aga Palalas (Canada). Two of the plenaries were delivered as bi-lingual presentations: Dr. Andrés Chiappe Laverde in Spanish and English, and Dr. Eman. M. AL. Rowaythi in Arabic and English.

For the first time, WCBL2021 was conducted as a multilingual virtual conference (English, Arabic and Spanish). The authors who have contributed to these proceedings are researchers, practitioners, instructional designers, and developers from both educational and commercial organizations representing 11 countries: Canada, China, Colombia, Greece, India, Japan, Jordan, Pakistan, Saudi Arabia, UAE, and USA,



We would like to extend our thanks to all participants for their contributions to the conference program and to the WCBL2021 Proceedings. I hope that these proceedings, which capture the collective knowledge of international experts, sectors, and programs from diverse cultural and educational contexts, will assist you in implementing blended learning in your practice. See you at WCBL2022.

Dr. Agnieszka (Aga) Palalas

IABL President

WCBL2021 Conference Organizing Committee Chair



CONFERENCE COMMITTEE

This conference would have not been possible without the amazing efforts of the IABL Conference Committee members. A big thank you to:

Committee Chair: Agnieszka Palalas, Ed.D., Canada

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Anastasia	Mavraki	<i>IABL, Greece</i>
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Chrysoula	Lazou	<i>IABL, Greece</i>
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Hend	Merza	<i>IABL, KSA</i>
Kawar	Deep Bedi	<i>Independent Consultant, India</i>
Kokkoni	Drampala	<i>IABL, Greece</i>
Liliana	Cuesta Medina	<i>Universidad de La Sabana, Colombia</i>
Phil	Cowcill	<i>Department of National Defence, Canada</i>



PROGRAM COMMITTEE: REVIEWERS

A special thank you goes to the members of the international Program Committee for their kind contributions and generous help with expert reviews and decisions.

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Nada	Rabie	<i>Zayed university, UAE</i>
Rana	Zein	<i>Zayed university, UAE</i>
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Sanaa	Kaddoura	<i>Zayed University, UAE</i>
Shytance	Wren	<i>Zayed University, UAE</i>
Stephanie	Siam	<i>Zayed University, UAE</i>
Susan	Ruckdeschel	<i>Literacy Solutions and More, Inc., USA</i>
Yasushige	Ishikawa	<i>Kyoto University of Foreign Studies, Japan</i>



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PLENARIES





Opening Plenary Address - Dr. Avgoustos Tsinakos



Dr. Avgoustos Tsinakos, Director of Advanced Educational Technologies and Mobile Applications (AETMA) Lab, Department of Computing Science, International Hellenic University

Keynote Title: Educational Challenges for Learners in COVID Era

Date: May 6 (09:00 EST)

Language: English

The pandemic has changed everything, in our lives, in our families, in our schools. How has this major shift to Online Education affected us as teachers and how has it affected our students? What are the advantages, the disadvantages and the challenges we are facing in this context of rapid transition to online learning? Is really Blended Learning a suitable approach to addressing our learning challenges in the COVID era? Why or why not?

Dr Tsinakos Avgoustos is a Professor and Director of Advanced Educational Technologies and Mobile Applications Lab in the Department of Computing Science at International Hellenic University in Greece. He is also the Director of the European Master "Immersive Technologies - Innovation in Education, Training and Game Design (IMT)", Member of the Institute of Educational Research and Development of the International Hellenic University (12/2019-present), Director of the Education Pillar of the Con-E-Ect Headquarters of UNESCO in Greece (2016-present), Member of the Open Source Working Group for "Content and Equipment in Higher Education" for the Ministry of Education (April 2016-today), Founding Director of the International Association for Blended Learning (IABL) for Europe and Past-Treasurer, National Ambassador of SELFIE (2018-present), Member of the National Advisory Committee EDYTE SA for research and technology issues (2020), Member of the Board of the Lifelong Learning Center of the International University of Greece (2020).

Plenary 2 - Dr. Andrés Chiappe Laverde



Dr. Andrés Chiappe Laverde, Faculty of Education, Universidad de La Sabana

Keynote Title: Retos y Posibilidades del Aprendizaje Híbrido en el Entorno Educativo Actual (Challenges and Opportunities of Blended Learning in Current Educational Environments)

Date: May 6 (13:30 EST)

Language: Spanish & English

The synchronization of face-to-face and online learning environments has been a matter under scrutiny in research and practice scenarios for various decades. Results have been both diverse and promising, in terms of their potential to generate flexible learning at various levels and educational contexts. However, school experiences that have emerged from the current pandemic show an urgent need to study the relevance and transformation of blended learning to adjust to the demands of home education under confinement conditions, and especially, although not exclusively, to early childhood students. In this sense, this plenary addresses some of the most representative challenges of blended learning in the current context and proposes some critical reflections and implications for further practice.

Dr. Andrés CHIAPPE LAVERDE is a full-time professor and researcher at the Faculty of Education, Universidad de La Sabana. He is a Specialist in Research and University Teaching, Master in Educational Technology and Doctor in Educational Sciences. He is currently the Director of the Doctoral program in Educational Innovation supported by the use of ICT. He leads the group "Technologies for the Academy - PROVENTUS". Senior Researcher and peer evaluator at COLCIENCIAS for research programs and projects associated with the use of ICT in Education. Also, fellow of the UNESCO / ICDE on the Open Educational Movement for Latin America, and President of the Ibero-American Network of Researchers in Innovation and Educational Technology (RIIITED).



Plenary 3 - Dr. Eman M. AL Rowaythi



Dr. Eman. M. AL. Rowaythi, Professor,
Science Education at Imam Muhammed
Bin Saud Islamic University

Keynote Title: The Role of Blended
Learning in the Development of Creative
Skills

Date: May 7 (09:00 EST)

Language: Arabic & English

Blended learning is one of the most important learning methods that help enhance the creative skills of the individual and develop them in education. It is a style of learning that uses what is available in technology and accommodates multiple techniques, and in a way that suits students, the educational situation and the educational material. In addition, it preserves the features and characteristics of regular teaching, so that the integration of direct classroom teaching with online teaching provides an opportunity for students to benefit from the skills that they develop outside the framework of the educational process. There are many tools that can be used in blended learning, whether synchronous or asynchronous. This presentation reviews several e-learning tools that can contribute to the development of students' creativity skills, and they have been classified into digital tools to develop creativity in the personal sphere, the field of work, as well as in the field of education. Also, the plenary presents a teaching model, proposed by the researcher, based on blended learning and its effectiveness in developing students' creativity skills. In conclusion, a number of requirements is reviewed for activating e-learning tools in blended learning in order to develop students' creativity.

Dr. Eman. M. AL. Rowaythi is a Member of Effat University Board of Trustees. Part-time advisor at ETEC's Administration of Professional Examinations for teachers. Former vice-dean of the Deanship for Development of Higher Education, Imam Muhammed Bin Saud Islamic University. Former vice-dean of the Deanship for Preparatory Programs, Imam Muhammed Bin Saud Islamic University. Head of the Cross-Cutting Dimensions Team in the National Curriculum Benchmarking Framework for General Education Curriculum Standards. Member of the scientific committee in developing the document for the Saudi Qualifications Framework and the Committee for the Development of Professional Standards and Academic Ranks for Teachers. Awarded the Research Distinction Award in the field of global publishing, 2019. A founding member of the Saudi Association of Trainers and Certified Trainer in the field of education and self-development. Published a book titled: "A new vision for learning: Teaching from a meta-cognitive perspective". Published the "University Teaching and Learning Handbook Series" and many research papers in the field of education and technology.



Closing Plenary Address - Dr. Agnieszka (Aga) Palalas



Dr. Aga Palalas, Associate Professor,
Athabasca University, Canada

Keynote Title: Digital Wellness in Blended Learning: From Theory to Practice

Date: May 7 (13:30 EST)

Language: English

Abstract: Digital wellness of both learners and educators is a significant factor to consider when designing and facilitating digital learning. The need to use and engage with technology in a way that promotes optimal health and well-being is essential to successful online and blended learning; that has been accentuated and “revealed” to a wider audience by the pressures and challenges of emergency remote teaching and learning. Working in the digital space, designing for, and facilitating online and blended learning offers many benefits but also comes with demands and limitations that require new strategies as well as changed habits of body and mind. In this closing keynote, Dr. Aga Palalas discusses both the potential positive and negative effects of the use as well as misuse of technology for learning. She addresses them through a whole-person lens in the context of the larger technological ecosystem. Dr. Palalas introduces evidence-based strategies drawing from her two-decade-long practice of mindfulness and research on mindfulness-informed practices for online learning and digital well-being.

Dr. Agnieszka (Aga) Palalas, long time teacher and researcher of adult education and educational technologies, has focused for almost two decades on exploring and developing blended learning solutions. She has been involved in numerous blended learning projects in North America, Ghana and India. Aga is an Associate Professor in Distance Education, at the Centre for Interdisciplinary Studies, FHSS, at Athabasca University, Canada. Aga has taught in both the Master’s and Doctoral programs at AU and other universities. Drawing from 25 years of experience as a face-to-face and online adult educator, instructional designer and an academic, combined with her passion for teaching and learning, Aga has focused her research and practice on the issues related to the excellence in online and digital learning, including blended learning. Aga is an internationally recognized expert in technology-assisted teaching and learning, online education, mobile learning, instructional design, mobile-assisted language learning, mindfulness in digital learning and digital wellness. She is the President of the International Association for Blended Learning (IABL) and a former President of the International Association for Mobile Learning. In those roles, she has interacted and collaborated with academics and training experts around the globe across diverse educational and cultural contexts. Aga has published a number of articles and book chapters as well as edited books pertaining to mobile and blended learning. She has been active in local and international professional associations and is a regular presenter at international conferences. She is also one of the founding directors of IABL.



LIST OF PRESENTERS

Adam Roarty	<i>Rikkyo University, Japan</i>
Avgoustos Tsinakos	<i>International Hellenic University, Greece</i>
Basmah Issa Ahmad AlSaleem	<i>eTurn Consulting & Training International Institution, Jordan</i>
Carl Edlund Anderson	<i>Universidad de la Sabana, Colombia</i>
Carolina R. Buitrago	<i>Institución Universitaria Colombo Americana -ÚNICA, Colombia</i>
Chadia Mansour	<i>Athabasca University, Canada</i>
Chris Benz	<i>Benz Information Consulting, USA</i>
Claudia Patricia Alvarez Ayure	<i>Universidad de La Sabana, Colombia</i>
Deepshikha Bhargava	<i>University of Petroleum & Energy Studies, India</i>
Elena Chudaeva	<i>George Brown College, Canada</i>
Eman Alrwaythi	<i>Imam University</i>
Eric Hagley	<i>Hosei University, Japan</i>
George Terzopoulos	<i>International Hellenic University (IHU), Greece</i>
Juliana Diaz	<i>Institución Universitaria Colombo Americana-UNICA, Colombia</i>
Karen Hyderst	<i>Kaleidoscope Training and Consulting, USA</i>
Lama Mahmoud	<i>Zayed University, UAE</i>
Liliana Cuesta Medina	<i>Universidad de La Sabana, Colombia</i>
Luis Ignacio Herrera Bohórquez	<i>Universidad Pedagógica y Tecnológica de Colombia, Colombia</i>
Mae Doran	<i>Athabasca University, Canada</i>
Manju Sugathan	<i>Pearl Academy, India</i>
Margaret Rauliuk	<i>Athabasca University, Canada</i>
María Lorena Dorado Reyes	<i>Universidad de la Sabana, Colombia</i>



Muhammad Safdar Bhatti	<i>The Islamia University of Bahawalpur, Pakistan</i>
Nilanjana Banerjee	<i>University of Petroleum and Energy Studies, India</i>
Olga Samsonova	<i>HCT, USA</i>
Rima Al-Tawil	<i>Athabasca University, Canada</i>
Rosa Dene David	<i>Universidad de La Sabana, Colombia</i>
Rui Ma	<i>Beijing City University, China</i>
Sara Kabil	<i>Zayed University, UAE</i>
Susan Ruckdeschel	<i>Blended by Design, LCC., USA</i>
Yuly Andrea Africano Torres	<i>Universidad de La Sabana, Colombia</i>

Conference Program

Eastern Time (US & Canada)	Day 1: Thursday, May 6th, 2021	Day 2: Friday, May 7th, 2021
8:30 - 9:00	Opening Ceremony	International Social Networking
9:00 - 10:00	<p style="text-align: center;">Plenary 1</p> <p>Title: Educational Challenges for Learners in COVID Era Presenter: Dr Avgoustos Tsinakos, Director of Advanced Educational Technologies and Mobile Applications (AETMA) Lab, Department of Computing Science, International Hellenic University, Greece Language: English</p>	<p style="text-align: center;">Plenary 3</p> <p>Title: The Role of Blended Learning in the Development of Creative Skills/ مداع دور التعلم المدمج/ تنمية مهارات الإ Presenter: Dr. Eman. M. AL.Rowaythi Associate Professor, Science Education at Imam Muhammed Bin Saud Islamic University Language: Arabic and English</p>
10:00 - 10:30	<p style="text-align: center;">SESSION # 1</p> <p>Title: A Small-Scale Comparative Study of Blended Learning and Traditional Offline Learning in Higher Music Course Presenter: Dr. Rui Ma, Beijing City University, China Language: English</p>	<p style="text-align: center;">SESSION # 12</p> <p>Title: 21st-century Stakeholders on Online and Blended Learning Environments Design. Presenter: Luis Ignacio Herrera Bohórquez, Universidad Pedagógica y Tecnológica de Colombia (UPTC), Colombia Language: English</p>
10:30 - 11:00	<p style="text-align: center;">SESSION # 2</p> <p>Title: A Comparative Study of Online Augmented Reality Platforms for Building Educational Experiences Presenters: 1/George Terzopoulos, 2/Avgoustos Tsinakos, International Hellenic University, Greece Language: English</p>	<p style="text-align: center;">SESSION # 13</p> <p>Title: Re-Modelling Learning: Transforming a Standard Course Module into a Blended Task-Centred Blueprint Presenters: Mae Doran, Chadia Mansour, Rima Al-Tawil & Margaret Rauliuk, Athabasca University, Canada Language: English</p>
11:00 - 11:30	<p style="text-align: center;">SESSION # 3</p> <p>Title: Unleashing the Power of Digital-Assisted Collaborative Teamwork for Undergraduate Students Presenters: 1/ Sara Kabil 2/ Lama Mahmoud, Zayed University, University College, United Arab Emirates Language: English</p>	<p style="text-align: center;">SESSION # 14 (Recorded presentation)</p> <p>Title: Pedagogy for Online Programming Training – Opportunities and Challenges Presenter: Dr. Nilanjana Banerjee, University of Petroleum and Energy Studies, Dehradun, India. Language: English</p>
11:30 - 12:00	<p style="text-align: center;">SESSION # 4</p> <p>Title: Investigating the Impact of Communicative Approach for Teaching Speaking Skills to the ESL Learners Presenter: Muhammad Safdar Bhattim, The Islamia University of Bahawalpur, Pakistan Language: English</p>	<p style="text-align: center;">SESSION # 15</p> <p>Title: Lessons from “Lockdown”- Blended Learning: A Potential Approach to Design Education. Presenter: Manju Sugathan, Pearl Academy, India Language: English</p>
12:00 - 12:30	<p style="text-align: center;">SESSION # 5</p> <p>Title: Launching a Public Online Blended Course on a Shoestring Presenters: 1/ Chris Benz, Benz Information Consulting, United States /2 Karen Hyderst, Kaleidoscope Training and Consulting, United States Language: English</p>	<p style="text-align: center;">SESSION # 16</p> <p>Title: Differentiated Instruction for Online Learning Environments Presenter: Claudia Patricia Alvarez-Ayure, Universidad de La Sabana, Colombia Language: English</p>
12:30 - 13:00	<p style="text-align: center;">SESSION # 6</p> <p>Title: Magic Card Games as Cognitive Teaching & Learning Tools: A Constructivist Approach to Improve Classroom Experience Presenters: Prof. (Dr.) Deepshikha Bhargava, India Language: English</p>	<p style="text-align: center;">SESSION # 17</p> <p>Title: Cómo optimizar el uso de estrategias para el aprendizaje de idiomas en ambientes de trabajo asincrónico?/Optimizing Strategies for Language Learning in Asynchronous Online Contexts Presenter: Yuly Africano, Universidad de La Sabana, Colombia</p>



		Language: Spanish
13:00 - 13:30	Break	Break
13:30 - 14:30	<p align="center">Plenary 2</p> <p>Title: Retos y Posibilidades del Aprendizaje Híbrido en el Entorno Educativo Actual/ Challenges and Opportunities of Blended Learning in Current Educational Environments Presenter: Dr. Andrés Chiappe Laverde, Universidad de La Sabana, Colombia Language: Spanish</p>	<p align="center">Plenary 4</p> <p>Title: Digital Wellness in Blended Learning: From Theory to Practice Presenter: Dr. Aga Palalas, Associate Professor, Athabasca University, Canada Language: English</p>
14:30 - 15:00	<p align="center">SESSION # 7</p> <p>Title: Integration of Virtual Labs into General Education STEM College Courses: Lessons Learned Presenter: Elena Chudaeva, George Brown College, Canada Language: English</p>	<p align="center">SESSION # 18</p> <p>Title: Efficiency of Courseware in Blended Learning Instruction Presenter: Maria Lorena Dorado, Universidad de La Sabana, Colombia Language: English</p>
15:00 - 15:30	<p align="center">SESSION # 8</p> <p>تتعلم المدمج خطوة نحو توطر تعلم اللغة العة للناطق فيها Title: د. سمة السلام، الإرن : Presenter: eTurn Educational Consultations and Training Language: العة</p>	<p align="center">SESSION # 19</p> <p>Title: Blending through Universal Design for Learning: Removing Barriers and Promoting Success Presenters: 1/ Liliana Cuesta Medina 2/ Rosa Dene David, Universidad de La Sabana, Colombia Language: English</p>
15:30 - 16:00	<p align="center">SESSION # 9</p> <p>Title: Moodle H5P in Blended K-12 Learning Presenter: Susan Ruckdeschel, Blended by Design, LLC. United States Language: English</p>	<p align="center">SESSION # 20</p> <p>Title: Blended Learning Approach in UAE Higher Education: A Selected Annotated Bibliography. Presenter: Dr. Olga Samsonova, Higher Colleges of Technology, United Arab Emirates Language: English</p>
16:00 - 16:30	<p align="center">SESSION # 10</p> <p>Title: Transforming Face-to-Face Education Through Empowering Professors During a Pandemic Presenters: Carolina Rodríguez Buitrago, 2/ Juliana Díaz, Colombia, Institución Universitaria Colombo Americana, ÚNICA, Colombia Language: English</p>	<p align="center">SESSION # 21, Friday</p> <p>Title: Higher Education Students' Experience of Distance Learning During COVID-19 Presenter: Dr. Olga Samsonova, Higher Colleges of Technology, United Arab Emirates Language: English</p>
16:30 - 17:00	<p align="center">International Association for Blended Learning 6th Annual General Meeting 2021 (AGM)</p>	<p align="center">SESSION # 22</p> <p>Title: Universal Design for an Inclusive, Student-Driven Online course Presenters: 1/ Carl Edlund Anderson, 2/ Liliana Cuesta Medina, Universidad de La Sabana, Rosa Dene David: Guest Professor, Colombia Language: English</p>
17:00 - 18:00	<p align="center">SESSION # 11</p> <p>Title: Blending your English class with the world Presenters: Adam Roarty, Rikkyo University, 2/ Eric Hagley, Hosei University, Japan Language: English</p>	<p align="center">Conference Closing Ceremony</p>



ABSTRACTS & BIONOTES



Session 1: A Small-Scale Comparative Study of Blended Learning and Traditional Offline Learning in Higher Music

Rui Ma

Beijing City University, China



Dr. Rui Ma graduated from Beijing City University with my bachelor, master, and Ph.D. She has long been rooted in music education research.

She is a member of the International Association For Blended Learning & International Music Education Association., an Art consultant and competition judge for several international art festivals. She is also a distinguished expert of the China National Light Industry Musical Instrument Quality Inspection Center.

ABSTRACT

This study reports the results of a small-scale comparative study. A total of 60 Music Majors of Beijing City University in 2018 and 2019 were selected as the research participants, and the experimental control method was used to carry out a small-scale comparative study. The situation of the two groups of students learning "music education and pedagogy" course by using blended learning and traditional offline learning was compared. The study collected research materials through questionnaire survey, recording of micro lecture video, interview and online teaching platform, used a combination of quantitative and qualitative methods to conduct a comprehensive study of the learning situation, and compared the differences of students' learning motivation, learning experience and academic record. The main results of this study show that blended learning is superior to traditional offline learning in terms of students' learning motivation, convenience and expansibility of learning process, and academic performance. The application of blended learning in music discipline is far lower than that in other disciplines, and its implementation path needs to be further explored, and the specific effect needs to be further verified. Therefore, this study carried out a small-scale comparative study of blended learning and traditional offline learning in higher music course, in order to find the appropriate scheme of blended learning in music discipline. This research provides an effective practice path for the blended learning of art discipline and restates the importance of information technology in the development of music education.

Keywords

Higher Music Course, comparative research, blended learning, traditional offline learning

NOTE: The full version of this paper is provided in the Full Papers section below.



SESSION 2: A Comparative Study of Online Augmented Reality Platforms for Building Educational Experiences

George Terzopoulos & Avgoustos Tsinakos
International Hellenic University, Greece



Dr George Terzopoulos graduated from the Department of Informatics of the Aristotle University of Thessaloniki in Greece in 2002. He received a master's degree in "Information Systems" from the Department of Informatics of the Aristotle University of Thessaloniki in 2011. He has a Ph.D. from the Department of Informatics of the Aristotle University of Thessaloniki. In his thesis, he studied energy-saving mechanisms for large-scale distributed systems such as Grids and Clouds. He was a PostDoc Researcher (2018-2020) at the Department of Applied Informatics of University of Macedonia in Greece. During his PostDoc, he studied educational applications and innovation educational technologies such as Voice Assistants and Augmented Reality. He is a High School informatics teacher since 2004 and a member of the AETMA research lab in IHU, since 2018.



Dr Avgoustos Tsinakos is a Professor and Director of Advanced Educational Technologies and Mobile Applications Lab in the Department of Computing Science at International Hellenic University in Greece. He is also the Director of the European Master "Immersive Technologies - Innovation in Education, Training and Game Design (IMT)", Member of the Institute of Educational Research and Development of the International Hellenic University (12/2019-present), Director of the Education Pillar of the Con-E-Ect Headquarters of UNESCO in Greece (2016-present), Member of the Open Source Working Group for "Content and Equipment in Higher Education" for the Ministry of Education (April 2016-today), Founding Director of the International Association for Blended Learning (IABL) for Europe and Past-Treasurer, National Ambassador of SELFIE (2018-present), Member of the National Advisory Committee EDYTE SA for research and technology issues (2020), Member of the Board of the Lifelong Learning Center of the International University of Greece (2020).

ABSTRACT



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LEARNING



Augmented Reality (AR) brings the digital world into the real world. It enhances reality by adding contextual information about surroundings and allowing the user to interact with the real world and the AR experience at the same time. By using AR, an educator can develop new ways to teach educational concepts in the classroom and improve learning outcomes. AR can be used in a range of diverse disciplines including astronomy, geography, physics, nursing, art and design. Nowadays, AR is mainly used in tablet and smartphone applications. Most young people own smartphones and use them in order to access social platforms, play games and connect with friends and their family. Thus, the combination of smartphones and AR for education is promising and its potential is growing. There are various frameworks that allow experienced users with coding skills to develop AR educational experiences. However, many educators cannot use these frameworks since they don't have the necessary programming skills. Recently, cloud-based platforms which enable rapid and simple creation and deployment of AR experiences using drag and drop items, have emerged. These platforms don't require coding skills and are relatively easy to use. This study aims to categorize online platforms available for building educational AR experiences based on their distinct features and the capabilities that they provide. The findings of this study will assist educators in selecting the most suitable platform to use when building AR experiences for educational purposes.

Keywords

augmented reality, online platform, education, mobile

NOTE: The full version of this paper is provided in the Full Papers section below.



SESSION 3: Unleashing the Power of Digital-Assisted Collaborative Teamwork for Undergraduate Students

Sara Kabil & Lama Mahmoud

Zayed University, University College, Abu Dhabi



Sara Kabil is as an Instructor of Entrepreneurship and Innovation at the University College. Prior to coming to Zayed University, she instructed courses in the areas of Entrepreneurship, Innovation methods, Business Studies and Economics across three different continents.

She has been an educator for over 10 years and obtained her Master's in Education from Michigan State in the US. Prior to her teaching career, she had the opportunity to work at two of the world's leading FMCGs; Henkel and Procter & Gamble in London.

Lama Mahmout, Zayed University, UAE

ABSTRACT

Mind mapping, concept sketches and creative thinking are critical steps in collaborative tasks for students, in the context of a fundamental innovation module. However, with the onset of remote learning environments where effective physical practices and real-time interaction are absent, embedding a suitable digital-assisted collaborative tool is an invaluable approach to teaching. The premise of the digital-assisted collaborative activity, namely, using miro.com, rests on encouraging team members to synthesize ideas and connect them to build up innovative, practical and contemporary solutions that ease the environment surrounding them. With the aid of miro.com, groups of students can individually collaborate in real-time to practice mind mapping and creative thinking by drawing, connecting lines and brainstorming small ideas to develop their desired collaborative entrepreneurial goals. If organized effectively, it even encourages innovative ideas to escalate into real entrepreneurial opportunities. In this light, we present evidence for the effectiveness that the digital-assisted teamwork activity plays in supporting undergraduate students to formulate innovative ideas into actionable real projects as applied to a sample undergraduate federal institution in the UAE. The presentation will first address Miro as a digital tool and how it can be used to promote collaboration between students through its various features. A discussion will then follow on the context of the study and how the tool was used followed by an overview of the results of the study. Recommendations for using the tool in practice will also be discussed. The audience will also be given the opportunity to interact with the presenters through a quick activity using the tool.



SESSION 4: Investigating the Impact of Communicative Approach for Teaching Speaking Skills to the ESL Learners

Muhammad Safdar Bhatti

The Islamia University of Bahawalpur, Pakistan



Dr. Muhammad Safdar Bhatti is an ELT expert with 26 years IELTS & TEFL teaching and training experience. He has widely published in numerous peer reviewed research journals, authored four books, supervised extensively & has delivered keynote and plenary speeches at various international forums. He has conducted and attended scores of ELT workshops and seminars within the country. He has been awarded Honorary Doctorate in ELT and Applied Linguistics by an American University due to his remarkable services in the field of ELT. He is also a recipient of "National Human Rights Professional Award-2016" by IHRO, Islamabad-Pakistan. Currently he is teaching in The IUB.

ABSTRACT

As a global medium of communication, the importance of English has increased a lot in the present social, political and commercial contexts. With the advancements of IT in various spheres of society, English has become the only language for the world citizens. Because of its international demand and recognition as a world language, English has always been a part of our education system. As a productive skill, speaking is a crucial skill to master in order to be successful in one's academic pursuits. Communicative ability involves the full understanding of vocabulary, grammar, comprehension and all aspects of English language. The current study focuses on the challenges and possible solutions in the way of effective application of productive skills. Communicative approach is used and applied as an alternative method that focuses on language as a medium of communication. This study also attempted to focus on the results of practicing English language teaching-learning through Communicative approach by interviewing teachers and students in some selective schools of Bahawalpur. The study aimed to measure the attitudes of English language teachers towards the communicative language teaching on developing students' speaking skills and the difficulties faced by the teachers on implementing this approach. The researcher adopted the descriptive analytical approach and designed two questionnaires for the students and the teachers to measure the attitudes of teachers towards developing students speaking skills through Communicative Language Teaching (CLT) and difficulties in implementing it at secondary level schools in Bahawalpur. The questionnaires were applied to the teachers and the students in academic year 2016-2017. The data were statistically analyzed. The findings of this study showed that the teachers' attitudes towards the CLT are positive and there are some difficulties like over-crowded classrooms, grammar-based examinations and lack of appropriate materials which were faced by them in implementing CLT to develop the students' speaking skills. The researcher's conclusion with suggestions and recommendations was also summed up at the end of the study.



Keywords

impact, investigate, communicative approach, speaking skills, develop

NOTE: The full version of this paper is provided in the Full Papers section below.





SESSION 5: Launching a Public Online Blended Course on a Shoestring

Chris Benz, Benz Information Consulting, USA

&

Karen Hyder, Kaleidoscope Training and Consulting, USA



Chris Benz helps organizations efficiently provide effective technical and business information to their employees, clients, and other audiences. He has designed, managed, and produced successful information solutions for almost 30 years. Chris' efforts consistently drive revenue and cost savings while successfully meeting audiences' information needs.

Chris has worked in a wide variety of industries, including construction, data analytics, finance, healthcare, manufacturing, government, insurance, networking and telecommunications, power management, and transportation. His better-known clients have included the California Department of Transportation, Cisco, Duke University, Eaton, GlaxoSmithKline, Hewlett-Packard, IBM, Intel, ITT, Lucent, Nortel, and SAS.



Karen Hyder, Kaleidoscope Training and Consulting, USA

ABSTRACT:

Do you have personal or professional knowledge you'd like to share with the public? Your purposes might include monetizing your knowledge, marketing yourself or your business, promoting new ideas, or providing a public service. But without the technical and monetary backing of an employer or other organization, how do you market your course, collect any registration fees, deliver content, and track participants' progress--on a minimal budget?

In this case-study session, you'll follow the journey of training and instructional-design (ID) researcher Patti Shank, VILT expert Karen Hyder, and project manager and business enabler Chris Benz as we launch our first public online blended course on a very small budget. Patti had spent thousands of hours reviewing research on effective workplace-training tactics, and



wanted to monetize her work by teaching other trainers and IDs how to apply those tactics. Working collectively as The Deeper Learning At Work Group, our goal was to deliver evidence-based training/ID courses that eliminated the need for instructor and participant travel while achieving learning that was as good as or better than in the physical classroom--for a lot less money. Our first course focused on writing valid and reliable multiple-choice questions, a critical skill many trainers and IDs do not have, and we are developing many more courses that use and teach Deeper Learning At Work tactics.

In this session, you'll learn:

- How we built the Deeper Learning At Work brand and marketed our courses through content marketing, presentations, social media, and business partnerships--for free
- About the low-cost and free tools we used to host self-paced content and discussions, collect registration fees, meet with participants in a live virtual classroom, and track participants' progress throughout the course
- How we used Deeper Learning At Work tactics to determine the need for, then design and develop, courses

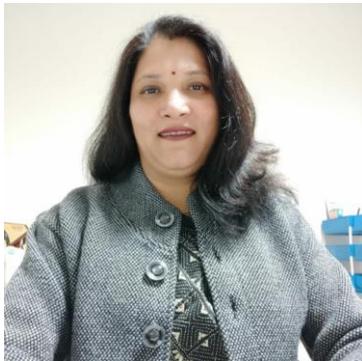
Keywords

public course, LMS, marketing, budget, case study, evidence-based



SESSION 6: Magic Card Games as Cognitive Teaching & Learning Tools: A Constructivist Approach to Improve Classroom Experience

Deepshikha Bhargava
University of Petroleum & Energy Studies, India



Prof. Deepshikha Bhargava, Professor, School of Computer Science, University of Petroleum & Energy Studies, Dehradun, India. She has 22 years of academic experience and has been the Visiting Professor at Université des Mascareignes (UDM), Mauritius.

She is a vivid writer and researcher, authored 16 books and more than 70 research papers. Her research areas include AI, nature-inspired computation and software agents.

She has received "Active Participation Woman Award", "Best Faculty of the year award"; "Nobel Contribution in Education Award", 'Distinguished Professor'. Also awarded by MHRD, Dept. of Education, Govt. of India for meritorious academic achievements in 1992.

ABSTRACT

This paper aims to investigate the effectiveness of a constructivist approach towards improving the teaching and learning styles in engineering education. It is evident that the engineering students are losing their interest throughout the world due to traditional style of teaching. For engaging students' learning experience in classrooms, many universities are using latest e-learning and pedagogical tools and technologies, nevertheless the effectiveness of these costly investments remain questionable. The need is to understand students' learning styles and expectations. The purpose is not only to impart knowledge among students, but also to enrich joyful learning experience. The present research explores the use of five-colored magic card game as an alternative pedagogical approach that combines a constructivist pedagogy.

The constructivist approach of teaching and learning through collective participation in magic games, revealed very interesting and encouraging results that seemed to justify the motivation of the research. Students responded positively towards their ability to improve their understanding for both simple and complex engineering concepts, showing excellent enthusiasm for collaboration, investigation, role-playing, learning through playing and caring for their peers and teachers. Harlen (1992) argues that if students are allowed to actively participate in their learning, then their creative and logical thinking will increase.

The five-colored magic card game presented in this paper has its inspiration from Boocock and Schild (1968), Dieter (2000), Rieber (1996) and Prensky (2001) and the root of a concept borrowed from binary numbers. It has been observed that the majority of students either not understood the concept of binary was fully or not able to recall the concepts in their later stages. The students are even not aware about its potential as a powerful tool. The purpose is to let the students discover the concept by themselves thinking that his would probably make them more



logical, critical and creative in their reasoning.

The study on games and cognitive psychology shows that the students can learn better when they are told to explain or demonstrate their understanding of a concept to the class. This gave the idea of developing a magic card game. It was also essential that students indulge into the game by their own, rather enforced to participate.

The constructivist approach of teaching and learning through collective participation in five-colored magic card game revealed interesting and encouraging results that seemed to justify the motivation of the research. Students responded positively towards their ability to improve their understanding for both simple and complex engineering concepts, showing excellent enthusiasm for collaboration, investigation, role-playing, learning through playing and caring for their peers and teachers.

Keywords

constructivist approach, cognitive learning, collaborative learning



SESSION 7: Integration of Virtual Labs into General Education STEM College

Courses: Lessons Learned

Elena Chudaeva, George Brown College, Canada



Elena Chudaeva

Using her background in physics and instructional design, Elena explores ways to design online and blended college science courses. Labs is an important part of science education. Elena explores Open Educational Resources and paid vendors in her search for hands-on activities and ways to engage students with science. She studies how science virtual labs promote student learning and develop digital and scientific literacy.

Today, Elena helps other faculty find new ways of teaching distance education science courses and incorporating multimedia learning activities by creating and supporting community of practice for college faculty.

ABSTRACT

The sudden shift to remote learning due to the ongoing pandemic provides the needs and opportunity to explore new technology and pedagogical approaches to teaching science related courses. Virtual science labs curriculum integration may help provide unique active learning opportunities for general education students, achieve an understanding of scientific principles and visualize scientific concepts by doing science, and develop basic scientific literacy. We undertook a pilot to explore virtual science labs developed by Beyond Labz in Winter 2021. The goal was to look into effective ways to incorporate multimedia learning and associated benefits and challenges for faculty and students.

Our pilot project was based on two major components. First, we modified the curriculum of physics and biology general education courses. Virtual labs served as live demonstrations during synchronous sessions, and as substitution for hands-on lab activities to be done synchronously and asynchronously, providing the first ever labs to these courses taught remotely. Second, seven faculty from different programs around the college explored the platform Beyond Labz for potential use in their courses. Students and faculty were invited to do a survey on their experiences with virtual labs. Faculty teaching with virtual labs collected their observations.

The results were mixed. Majority of students reported that they liked virtual labs because they have a real wet lab feeling to them and allow to perform authentic experiments. However, learning to navigate new platform added extra cognitive load and extra learning time, so some college students decided not to do virtual labs at all due to challenges in managing life and school commitments. Often, college students value general education courses less than mandatory courses in their vocational programs. Based on faculty feedback, virtual labs are definitely a great resource to be added to science related courses allowing free exploration and



increasing engagement (virtual labs activities should be in alignment with course outcomes). However, two major concerns about sustainability of science virtual lab curriculum integration were identified: (1) cost to provide access to the resource for students and (2) time and support for faculty to learn new technology tools and develop meaningful learning activities.

General education science courses can be challenging to non-science students and can be viewed as a static body of facts, especially if courses do not have wet labs to provide hands-on experience. This presentation identifies benefits and challenges in using virtual science labs for students and faculty alike. It is aimed at improving the knowledge of science education stakeholders. It urges more studies to explore the impact of virtual science labs on students' learning and to guide practice because even the best virtual labs and simulations are not automatically successful.

This project was supported by eCampusOntario and Beyond Labz (<https://www.beyondlabz.com/>) at no cost for participating students and faculty.

Keywords

virtual science labs, science education, remote teaching, blended learning, general education courses

SESSION 8: Blended Learning: A Step Towards Developing the Teaching of the Arabic Language to Non-Native Speakers

Basmah Issa Ahmad Al-Saleem
eTurn institution for Teachers' Education, Jordan



Dr. Basmah Issa Ahmad Al-Saleem, the owner and the founder of eTurn institution for Teachers' Education in Amman Jordan, is a former EFL Associate Professor in the Language Center at The World Islamic Sciences and Education University, WISE, Amman – Jordan. She was the Director of Arabic for Speakers of Other Languages Center ASOL in 2016. She holds a doctorate degree from Yarmouk University in Curriculum and Instructions of Teaching English as a Foreign Language TEFL in 2010. She received a Diploma in TESOL from Columbia University in New York in 2008. She also holds the American Professional Certificate of English Teachers from SIT Institution, New York 2012. She is a professional in Blended Learning and a trainer of Teachers and trainees in Digital Teacher program. She has published and presented several academic papers at conferences in Jordan and in various countries abroad. Moreover, she holds a Diploma in Child Rights from Lund University in Sweden, which she received in 2009. Her PhD dissertation in Blended Learning was chosen as one of the best dissertations all over the world by LAMBERT for Academic Publications in Germany in 2010.

ABSTRACT

This study aims to shed light on the importance of using blended learning in teaching and developing Arabic language skills for non-native students, what is blended learning in teaching Arabic and how to plan and implement the Arabic language lesson for non-native speakers according to the blended learning method and the ECRIF theory in language teaching through using the modern educational frameworks PPU for teaching productive language skills and the PDP framework for teaching receptive language skills and implementing the lesson according to R2D2 plan for distance education with the flavor of face to face education.

Keywords

blended learning, ECRIF, Arabic for Non-Native Speakers, PPU, PDP, R2D2



SESSION 9: Moodle H5P in Blended K-12 Learning

Susan Ruckdeschel
Blended by Design, USA



Dr. Susan Ruckdeschel has many years of teaching, administration, and curriculum development for K-12 public schools. As a reading specialist and teacher coach, she worked throughout all boroughs of New York City. Presently, as founder and CEO of Blended by Design, she curates blended learning modules for K-12 students who struggle with literacy. Dr. Susan's research continues to focus on digital literacy and use of evidence-based practices that impact effective curriculum design and instruction. Dr. Susan is also founder and former CEO of Literacy Solutions and more, Inc., a blended learning provider with of teacher recertification courses used in districts throughout the US.

ABSTRACT

H5P is a free, content authoring plugin that integrates with a Moodle LMS for richer options than previous Moodle LMS's had to offer. H5P also works in Word Press and Drupal, and allows authors to create and edit interactive videos, audio, quizzes, game-like assessments, presentations, integration of Microsoft applications, interactive learning games, and other engaging activity options with a web browser and installation of the H5P plugin. Previously, Moodle was limited to a number of straightforward activity options that allowed for seamless adult learning, but without the integration of other applications such as Captivate or Articulate, it lagged in its ability to engage K-12 learners, especially early learners. H5P has changed all of this, and in a user-friendly way for both developers and end users through full user engagement, fun games, and ease of use for students new to online learning. Tools for teacher-student realtime interaction, as well as self-paced asynchronous portions make it a perfect blended learning tool for K-12 students, especially those that have been left behind in their learning due to lack of access, lack of realtime training, and/or lack of needed live instruction due to restrictions of 2020/2021 pandemic. Closing these gaps among students who had already been struggling prior to the pandemic will continue to present challenges in years to come. With proper use of H5P as a K-12 blended learning authoring tool, and with evidence-based instructional design, H5P has the potential to reach out to struggling learners to potentially close achievement gaps.

Keywords

blended learning, K-12 learners, struggling learners, Moodle, instructional design



SESSION 10: Transforming Face-to-Face Education Through Empowering Professors During a Pandemic

Carolina Rodriguez-Buitrago & Juliana Díaz
Institución Universitaria Colombo Americana, ÚNICA, Colombia



Carolina Rodriguez-Buitrago is a full-time professor at Institución Universitaria Colombo Americana, ÚNICA. She has worked as a teacher for almost 20 years and has held different positions in the academic field. Recognized for her work in flipped learning by Flipped Learning Global Initiative (FLGI). As well as one of the 150 Leaders, at an international level, to implement Flipped Learning in Higher Education. She also revised the international Standards for Flipped Learning and led the FlipTech Latam in 2019. In 2021, she became a member of the board of the Flipped Learning Network.



Juliana Díaz works as a full-time professor at Institución Universitaria Colombo Americana - UNICA. She is also the coordinator of the area of Continuing Education at the same institution. She has been teaching for 9 years and flipping for her face-to-face courses at this university for 4 years. Her research interests are Flipped Learning methodology, writing process and autonomous learning. She has recently collaborated in writing the book *Innovations in Flipping the Language Classroom* (2018) by Jeff Mehring and Adrian Leis about Flipping Writing Workshops. In 2015, she won a BETT LATAM Leadership Summit award with the project: "Flipping English learning, improving our 21st Century Colombian learners' outcomes through technology and autonomy" with Carolina R. Buitrago.

ABSTRACT

Institución Universitaria Colombo Americana -ÚNICA has offered high-quality education to students from all corners in Colombia for 17 years. However, in 2020, the institution had to redesign its pedagogical model and its offerings due to the pandemic. The transition was not easy since the program had always been offered completely face-to-face and the profiles of professors vary greatly. The Educational Technology and Pedagogical Innovation Committee had been constituted in the institution back to 2019, but little attention was still paid to the use of educational technology as part of everyday instruction in some classes. Nonetheless, the crisis generated by COVID-19 forced the institution to take measurements in order to



guarantee high quality education within the new mode of teaching and learning. The WCBL2021 presentation features the preliminary results of a case study research project started in 2020 where the digital mindset and competencies of professors at the institution were gauged in order to respond to the needs of the community in terms of professional development and pedagogical support.

Keywords

professional development, higher education, digital skills, educational technology



SESSION 11: Blending Your English Class with The World

Adam Roarty, Rikkyo University, Japan

&

Eric Hagley, Hosei University, Japan



Adam Roarty is currently working at Rikkyo University in Tokyo, Japan. I have been teaching in Japan for six years in a variety of contexts. My research interests include self-regulated learning, motivation and intercultural communication.



Eric Hagley is a visiting fellow at Hosei University in Japan. He created the large-scale Virtual Exchange (VE) being presented here and has had his students doing VE for the past 12 years. He is the Chair of the Asia Pacific Virtual Exchange Association (APVEA) and in this position is trying to ensure that VE can become mainstream in language classes everywhere.

ABSTRACT

In a globalised world, there are more ways than ever to connect with people around the earth. This interconnectivity offers a range of possibilities for language teachers to connect their students with others online in authentic ways that would not otherwise be possible. Particularly during the past year when normal social interaction has been severely limited, virtual interaction has become a crucial communication tool. One such tool, which allows students learning English as a Foreign Language (EFL) to connect with other EFL students across the world, is the International Virtual Exchange Project (IVEProject). The IVEProject was born out of a desire to connect EFL students in Japan with students in other countries. Japan is largely monocultural and thus the opportunities for authentic communication in English are often limited. Most often, when learning EFL, students in Japan must practice communicating with other Japanese EFL students. This monocultural setting of practicing EFL has a range of problems such as pronunciation issues, entrenched grammatical errors and unnatural expressions which have been translated from the speakers' shared native language as well as a tendency to resolve any breakdowns in communication by reverting to the shared native



language. Additionally, intercultural sensitivity or intercultural competence are more difficult to develop yet these are essential skills for an increasingly globalised workplace. The IVEProject aims to move beyond the walls of the monocultural classroom and create a shared space where students from around the world can share, learn and progress in their language abilities together while developing intercultural sensitivity and competence.

By utilising the IVEProject, instructors are able to implement a blended learning approach which combines communicative activities in the classroom with authentic communication through the IVEProject forums. Since its inception in 2004, where one class each from Japan and Colombia participated, the project has expanded and the most recent exchange in 2020 had some 5,000 students from 11 cultures participate. The IVEProject is now sponsored by a Japanese government Kaken grant and is free-of-charge for participants. Research on previous exchanges carried out in 2016 and 2017 showed signs that participation in the IVEProject enhances students' knowledge of their own culture and other cultures, increases confidence in interacting with people from other cultures and improves intercultural sensitivity, which is essential for the development of intercultural competence. Students also generally believed that participation in the exchange resulted in improved English skills (Hagley, 2020).

This presentation will introduce the IVEProject. The website's various functions will be explained with an introduction of the most recent version of the exchange. Additionally, suggestions will be made on how teachers blend the project into their classes to maximise engagement thus attaining benefits for their students. Finally, details of how teachers may participate in the exchange will be given with an invitation to participate in future exchanges.

Keywords

virtual exchange, IVEProject, intercultural competence, English language education, blended learning



SESSION 12: The 21st-century Stakeholders on Online and Blended Learning Environments Design

Luis Ignacio Herrera Bohórquez
Universidad de la Sabana, Colombia



Luis Ignacio Herrera Bohórquez is an assistant professor at the Universidad Pedagógica y Tecnológica de Colombia (UPTC). Besides being an international certified English teacher (ICELT), he holds a master's degree in ELT and autonomy from the Universidad de la Sabana (Chía, Colombia) and a B.A. in Modern Languages Spanish and English teaching. His research interests include online environments, 21st-century learning and autonomy.

ABSTRACT

Alongside the rise of technology and the challenges that the COVID-19 outbreak has posed, many higher education institutions have been embracing online and blended learning environments to broaden students' learning opportunities, globalize their academic offerings, and equip learners with 21st-century skills demanded by the contemporary job market. Although many higher education institutions have been embracing the modernizations required for online and blended learning, the optimization of core elements such as methodology, content, interaction, and the incorporation of the 21st-century skills is still a matter of investigation (Burns, 2011; Sun et al., 2008; van Laar et al., 2020). Furthermore, moving from a face-to-face modality to a blended or online modality may challenge both stakeholders' roles and expectations (Lockee, 2020; Nagel & Kotzé, 2010). Accordingly, this presentation will start attendees off by showing a summary of the context, background, and justification of a study that aimed to characterize, contrast, and consolidate a group of instructors', graduate students', and former students' perceptions about elements and the role of 21st-century skills associated with both effective online and blended learning programs. Attendees will also have the opportunity to see the findings of this study which include a set of particular elements to be incorporated in contemporary online and blended programs, alongside a characterization of the 21st-century skills that were perceived as fundamental in these environments. Likewise, attendees will be invited to reflect on the particular elements to be incorporated in contemporary online and blended programs, as well as the top 21st-century skills worth including in these environments by means of open-ended and multiple-selection questions, word clouds, and oral interventions. Conclusions drawn from this presentation and attendees' contributions could help to provide a more comprehensive understanding of the particularities of online and blended learning. Final remarks will also provide information to help address potential needs and optimize both online and blended learning scenarios.



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Keywords

online environments, blended learning, contemporary program design, 21st-century learners



SESSION 13: Re-Modelling Learning: Transforming a Standard Course Module into a Blended Task-Centred Blueprint

Mae Doran, Chadia Mansour, & Rima Al Tawil
Athabasca University, Canada



Mae Doran, M.Ed. recognizes the privilege of living on the traditional lands of the Malahat Nation in British Columbia, Canada. A passion for lifelong learning coupled with a collaborative spirit is Mae's esprit-de-corps. Mae has worked in many environments in both private and public sectors, written and delivered software education to thousands of adults, helped design systems, and led change in many organizations, living and breathing the journey towards transformation with them. With a masters in adult education, MEd, she is currently a doctoral student at the Centre for Distance Education at Athabasca University, busy working and studying in the domain of online instructional design and research. Team collaboration online with students and peers has fueled and enlightened her understanding of eLearning leadership design and development. Her interest in an online project-based learning model was the inspiration for this initiative and the topic of her research.



Chadia Mansour, MA is an applied linguist with extensive language teaching (EFL, ESL, ESP, AFL, Discourse & Culture) as well as curriculum and instructional design experience. She earned her MA in applied linguistics from ODU, USA. She is a Fulbright scholar and currently is pursuing her Doctorate in Distance Education, at Athabasca University. Her research interests include online assisted second language acquisition, and online language pedagogy and the role of multimodality. She held various leadership positions such as directing an ESP program, language curriculum supervisor, and instructional design consultant, in the US. Her latest leadership project involves language Open Educational Resources.



Rima Al Tawil M.Ed. Hailing from Toronto, Ontario. Rima is an experienced educator with passion for using educational technology to create engaging experiences that lead to deeper learning. Throughout her profession as an instructor, senior learning consultant, and instructional designer in the academic and corporate worlds, she has designed, developed, and implemented curricula using suitable pedagogical approaches and modalities. For her EdD studies at Athabasca University, she is researching the influence that nonverbal cues may have on the students' interaction and engagement in online courses. She conducted an initial research on the same topic while completing her Master's in Adult Education at Yorkville University.

ABSTRACT

In March 2020, a group of us from Athabasca University in Canada, one of the few cohorts of doctoral students in the world specializing in distance education, developed a high-level blueprint aimed at assisting faculty to transition from emergency response into digital pedagogy during the COVID-19 pandemic. Informed by our praxis and guided by the principles of task-centred learning (Francom, 2017; Merrill, 2002; Reigeluth & Carr-Chellman, 2009; Savery, 2009), we framed the blueprint in a way that allows educators to follow clear phases in adapting their courses into the online learning environment. After presenting this model for purely online teaching over the course of five seminars for IABL (at this link), we are re-modelling it to align with the theme of blended learning in the new normal.

In this presentation, we drill into the practical steps on how to use this blueprint to transition singular modality curricula into blended learning following the task-centered model. The quintessential phases of the task-centred approach as informed by Francom (2017), Merrill (2002), and Reigeluth & Carr-Chellman (2009) encompass:

- prior learning activation (existing knowledge and skills are activated as a foundation for the new learning)
- learning outcomes (tasks are shown as the attainment learners will be able to do or solve)
- modelled/demonstrated content (the instruction demonstrates what is to be learned rather than merely verbalizing information)
- applied practice (new knowledge is applied to solve problems or do tasks)
- reflective integrated evaluation (outcomes are firmly established when integrated into real contexts).

For this conference, in preparation for the upcoming post-COVID-19, we showcase the implementation of this blueprint to the blended learning format using a module of a course named Legal Advantage ENGL251 course which is a prerequisite to enhance the language proficiency for international students to enter a law degree program in the USA. We actively present how this course, already learner-centric, can be further transformed from an in-person ESP course into this blueprint with touchpoints where an educator could employ blended face-to-face components. To engage the audience in participatory activities, we use various



interactive opportunities including, but not limited to: polls, questions/answers, and collaborative exercises.

Originally, the ENGL251 course followed a traditional in-person approach of teaching and learning, with instruction based on rehearsal and drills of the content and in-class discussion of the reading material. From this jug-and-fill format, one of our colleague-authors redesigned it into an English for Specific Purposes (ESP) course, upgrading it to a student-centered learning approach using a project-based syllabus. Instruction was grounded in scaffolded modelling, placing student interaction in real-world scenarios as a priority. Activities involved asynchronous self-study and e-journaling, online group work, and discussion forums leading to in-person class discussions, role plays, debates, mock trials and field trips to real courts. The instructional designer and facilitator, our doctoral colleague, incorporated continuous creative formative assessment as well as peer and collective evaluation activities throughout the course.

This course provides fertile ground to demonstrate the transformation to the blended-learning blueprint.

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Keywords

task-centered, learner-centered, blended learning, prior learning activation, scaffolding, application, integration



SESSION 14: Pedagogy for Online Programming Training – Opportunities and Challenges

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Dr. Nilanjana Banerjee has done her B. Tech in Chemical Engineering from Nirma University, followed by the M. Chem. Eng. In Chemical Engineering from ICT Mumbai. She then completed her Ph.D. in Chemical Engineering from Missouri University of Science and Technology, Rolla, USA. She has been a part of the Department of Higher and Technical Education, Govt. of Maharashtra for 1 year, and is currently working as Assistant Professor in the Department of Chemical Engineering. Her research interest lies in the field of sustainable development biofuels, reactor design, modeling and simulation, and CFD.

ABSTRACT

Algorithm development, programming skills and software usage are no more just restricted to computer engineers or IT specialist. These are the skillset requirements that have percolated to all the various branches of engineering. The companies hiring for core engineering jobs also emphasize the need for basic programming skills.

As the usage of software and simulators in design companies have exponentially increased in the last few decades, the demand for core engineers for the development of these software and simulators have also gone up. Thus, slowly it has become imperative that we provide our engineering students with basic programming skills. Imparting these skills in a face-to-face manner has no major challenges other than getting the student interested in coding. However, with the onslaught of the pandemic, the entire scenario changed, and suddenly the simplest of the task is taking a humongous effort. Now, teaching programming online to students from a non-computer science background, with almost no prior training in programming, required new pedagogical initiatives.

New methodologies for pedagogy and assessments have to be implemented to ensure proper delivery as well as keep students engaging. Another challenge is to generate interest among students towards programming, where most of them have no prior inclination towards it. For a non-computer science background student, algorithm development and programming can sound intimidating, which also causes the student to lose interest. Finally, getting the nuances of the programming, the syntax usage, the algorithm development, across to the students to make them self-reliant in programming is also not an easy task.

This paper encompasses the pedagogical initiatives taken in delivering the programming course online for the undergraduate chemical engineering students, the challenges faced and all the opportunities ahead to make it robust. We also discuss the various assessment techniques that may be employed to enable fair and just assessment of all the students without





compromising the essence of the course. However, the same pedagogical initiatives and assessment techniques may also be extended to other courses. The programming course will be considered as an example to understand the same.

Keywords

programming, online pedagogy; online assessment; blended learning



SESSION 15: Lessons from “Lockdown”- Blended Learning: A Potential Approach to Design Education

Manju Sugathan

Academic Governance, Pearl Academy, India



Dr. Manju Sugathan is an experienced academic with PhD in textile design from University of Leeds, who has significant project and people management experience; range of skill sets required for Design Thinking, Human Centred Design, Participatory Action Research & Academic Quality maintenance. 10+ years of experience in industry, teaching and research. Responsible for maintaining academic rigor, delivery of externally funded research projects and demonstrated successful completion of complex R&D projects. Experienced in advanced topics such as knitting technology, e-textiles and Computer Applied Design.

ABSTRACT

Pearl Academy, a leading institute in design education, introduced blended learning in 2012 as part of its teaching and learning system. Blended learning is an integration of traditional and online learning, utilized to create an effective learning environment. It involves a mix of technology and classroom learning to achieve the educational goals via the employment of multiple methods of instruction to deliver course content (Stacy & Gerbic, 2008).

The major paradigm shift that occurred in higher education during the Covid “lockdown” conditions is the online mode of teaching, learning and assessment using, for instance Blackboard Collaborate and other online platforms. The author reflects and examines upon student engagement and participation rates in online teaching during the lockdown circumstances, through observation of recorded Blackboard classes to situate the problem for research.

The methodology in use is Soft System Analysis by Peter Checkland (1999) where, the researcher does not simply observe the situation externally but is embedded and involved in the transformation process. In this way the researcher is likely (and encouraged) to bring about changes in the system. Soft-system analysis provides space for the involved individuals to communicate and focus on problem-solving. To overcome the challenge of representing the whole system and its activities, Checkland (1999) suggests visual models and drawings of various elements that offer insight into key issues. Furthermore, the starting point for soft system is a rich picture that represents the problems, situation and their relationship.

The methodology for research is discussed in two stages:

- Stage 1 is to identify whether a rapid change from a blended learning system to a fully online modality can achieve the optimal results in a practice- based creative course like design. A rich diagram is used to point out the difficulties faced during fully online teaching and learning modality in design education



- Stage 2 is to understand and interpret the insights of students and faculty towards fully online and blended learning, using qualitative methods. Finally, this is used to formulate a blended learning strategy that can be adapted in the “post- lockdown” period; suggestions for future research are offered.

Keywords

learning modality, Blackboard Collaborate, rich picture, qualitative methods.

NOTE: The full version of this paper is provided in the Full Papers section below.



SESSION 16: Differentiated Instruction for Online Learning Environments

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Universidad de La Sabana, Colombia



Claudia Patricia Alvarez Ayure has taught English as a foreign language and mainstream courses in various schools and universities. Her experience at the graduate level includes the design and coordination of teacher training programmes for in-service English teachers, and the design and teaching of various courses for the master's programmes in English Language Teaching at the Faculty of Education, Universidad de La Sabana. This experience has also led her to work as the associate editor of the Latin American Journal of Language and Content Integrated Learning LACLIL, direct various theses and research projects, publish academic articles, and deliver scholarly presentations. Her principal interests in teaching and research are e-learning, virtual learning environments, differentiated instruction and teacher training.

ABSTRACT

Differentiated instruction has been conceptualized as a teacher's response to learners' needs characterized by the provision of purposeful and deferential activities, flexible grouping and continuous assessment and improvement. Initially, differentiated instruction was developed as a way of dealing with gifted students, later teachers began to use it for special-education students and then it was adopted as a way of thinking about teaching and learning that can be transferred into classroom practice in an array of different ways (Blaz, 2006; Tomlinson, 2017). Today, the abrupt transition to remote teaching has required educators to afford learning opportunities suitable to all students, a differentiation scenario that might be difficult to portrair in online blended learning environments. This presentation will focus on the differentiated instruction principles and strategies practitioners can use in online learning contexts to respond to students' needs including those that modify content (what is taught), process (how learning takes place) and product (how students represent what they have learnt) (Bondie & Zusho, 2018). The presentation will showcase suggested instructional elements to facilitate differentiated learning illustrated by sample activities. Throughout the session, the audience will have opportunities to understand their readiness to differentiate by using an interactive instrument. The audience will also be encouraged to interact in a reflective discussion about the application of the instructional elements proposed and how these might present opportunities within their own practice in blended learning environments. Recommendations for effectively applying the differentiated learning principles for the provision of a more inclusive education will be offered.

Keywords

differentiated instruction, inclusive education, blended learning, online learning environments



SESSION 17: Optimizing Strategies for Language Learning in Asynchronous Online Contexts?

¿Cómo optimizar el uso de estrategias para el aprendizaje de idiomas en ambientes de trabajo asíncrono?

Yuly Africano

Universidad de La Sabana, Colombia



Yuly Andrea Africano Torres is an EFL teacher at Colegio UNICAB Virtual (Sogamoso Boyacá, Colombia). She holds a Degree in Modern Languages from the Universidad Pedagógica y Tecnológica de Colombia (UPTC) in Tunja Boyacá, Colombia. Currently, she is a Master's degree candidate in English Language Teaching at the Universidad de La Sabana (Bogotá, Colombia). Her research interests include language teaching-learning strategies, autonomous learning, autonomy and self-regulation in e-learning environments, instructional design, educational alternatives, and digital resources in language learning.

ABSTRACT

Las herramientas tecnológicas de vanguardia y los sistemas de gestión de aprendizaje (LMS, en inglés) ofrecen numerosas oportunidades y a la vez desafíos en torno al desarrollo de la autorregulación, la motivación, y la adquisición de hábitos académicos en un entorno e-learning. Para que estos procesos se desarrollen de una forma significativa, exitosa y pertinente, es necesaria la interacción y comunicación activa entre los estudiantes, los profesores y las familias, siendo todos, agentes esenciales participantes en el proceso educativo. Además, se requiere el uso de estrategias prácticas y efectivas que les permita a los estudiantes desenvolverse con eficacia en las dinámicas que esta modalidad de estudio exige. No es suficiente tener acceso a un entorno virtual visualmente agradable, con contenidos bien estructurados y diseñados y secuencias didácticas de aprendizaje bien organizadas; pues, aunque existan contenidos de calidad es importante seleccionar asertivamente aquellas estrategias que faciliten el aprendizaje de un idioma en estos contextos. Esta conferencia aborda algunas formas para optimizar el uso de estrategias para el aprendizaje de lenguas en ambientes de trabajo asíncrono, provenientes de la fusión entre teoría y práctica, así como de reflexiones pedagógicas y procesos investigativos.

Keywords

online learning, estrategias de aprendizaje, ambientes de aprendizaje, trabajo asíncrono

NOTE: The full version of this paper is provided in the Full Papers section below.



SESSION 18: Efficiency of Courseware in Blended Learning Instruction

Maria Lorena Dorado
Universidad de La Sabana, Colombia



Maria Lorena Dorado Reyes Bachelor's in Modern Languages English and French, Specialist in University Teaching from Cali, Colombia and Candidate for a Master's degree in English Language Teaching for Self-directed Learning at the Universidad de La Sabana. My academic interests cover the translation and intercultural awareness in English language learning.

ABSTRACT

Courseware offers a wide array of learning and instructional opportunities to educational institutions in order to achieve their target expected goals. However, there is a constant need to broaden the analysis of such phenomenon, especially when institutions opt by combining the best of both worlds in a blended learning experience that includes courseware as one of the main elements of such fusion. The present exploratory mixed-method makes use of the User Experience Questionnaire (UEQ), a Think-Aloud Protocol, and a teacher's journal to further examine how a worldwide used courseware (My English Lab-Pearson) supports language learning in a blended scenario.

Data was triangulated using both descriptive statistics procedures and content analysis. Results revealed that the courseware optimizes English learning by allowing learners manage the interaction with the product and offering a highly positive sequencing of tasks. Data also revealed that factors such as attractiveness, efficiency, and dependability were significant, and that a salient improvement area for language courseware designers is stimulation, an aspect that despite obtaining negative assessment, did not imply an inefficient use of the product in terms of overall quality. Implications for instructors and course designers are also discussed, among which the endorsement of courseware analysis is essential within the scope of instructional design and language teaching and learning supported by technologies.

Such vision will certainly lead to an optimal use of language resources framed upon an effective instruction and learning practice blended learning ecosystem, as it will also prioritize the pedagogical rationale underpinning selection, design, implementation and evaluation of materials suitable both for the educational context and students' needs.

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Keywords

instructional design, educational technology, courseware evaluation, user experience (UX)

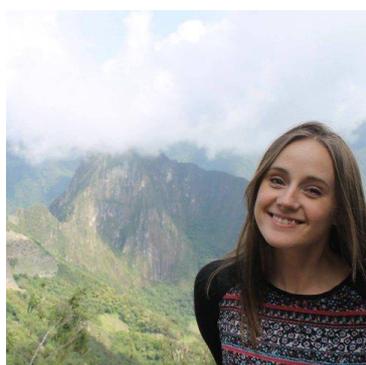


SESSION 19: Blending through Universal Design for Learning: Removing Barriers and Promoting Success

Liliana Cuesta Medina & Rosa Dene David
Universidad de La Sabana, Colombia



Dr. Liliana Cuesta Medina is an Associate Professor at the Master's programs in English Language Teaching at the Faculty of Education, Universidad de La Sabana (Chía, Colombia). She holds a PhD in English Philology from the Universidad Nacional de Educación a Distancia (UNED-Madrid, Spain), a B.A. in English and Spanish from the Universidad Pedagógica Nacional (Bogotá, Colombia), and a Specialization in Applied Linguistics to the Teaching of English from the Universidad La Gran Colombia (Bogotá, Colombia). She has been involved in national and international teacher development programs, mainly in EFL, e-learning, and e-tutoring. Her research areas include CALL, CLIL, teacher education, academic writing, cyberbullying, and learners' self-regulation in blended/virtual learning environments, on which topics she has published in a number of indexed journals and conference proceedings. Currently she is the Academic Coordinator of the Master in English Language Teaching programs at Universidad de La Sabana and she serves as an evaluator for the National Accreditation Council in Colombia and various ELT programs in the country.



Rosa Dene David is a research advisor at Universidad de La Sabana in Chia, Colombia. Rosa has worked in a wide variety of teaching contexts and has supported students and teachers from various language and cultural backgrounds. She holds a Master of Arts in Teaching English to Speakers of Other Languages from Portland State University and has taught in the United States, Bolivia, South Korea, Mexico and Colombia.

ABSTRACT

With the advent of blended learning (BL) modalities (remote, flipped, flex, etc.), the educational shift needs to be effectively addressed to differentiate classroom instruction and accommodate diverse student populations to ensure that all learners can demonstrate their understanding of classroom content. The goal of Universal Design Learning is to use a variety of teaching approaches that remove any barriers that students may have understanding classroom instruction, while giving students equal opportunities to not only succeed, but to thrive. In this presentation, the audience will understand how incorporating a UDL approach



can support the development of classroom instruction that create safe spaces for students to demonstrate learning in blended scenarios. This will be done by examining the types of blends the various perspectives within the educational community on its use, and a discussion of its future applicability, adaptable to all levels in education.

Keywords

universal design, blended learning, differentiated instruction





SESSION 20: Blended Learning Approach in UAE Higher Education: A Selected Annotated Bibliography

Dr. Olga Samsonova
Higher Colleges of Technology, UAE



Dr. Olga Samsonova holds two Masters Degrees, one in Early Childhood Education with Special Education endorsement from Brooklyn College, USA (2009) and the other in History from Simferopol State University, Ukraine (1999). She earned her Ph.D. in Learning, Instruction, and Innovation from Walden University, USA (2017). She has 20 years of experience in adult continuing education and K-12 environments.

ABSTRACT

In the present time, the required value of education can be achieved only by changing the parameters related to technology use and transforming a classroom into a student-centered that meets different students' needs and learning styles. The blended learning (BL) approach to learning has been the object of various studies in the last two decades as a way to achieve the required results. Many higher educational institutes started to prefer BL over traditional teaching, and the UAE universities are not exceptions. There has been an increased recognition of the fact that more attention needs to be paid to this area. Hence, this selected annotated bibliography aimed to find out and describe the primary outcomes of the BL approach research in this country. Emergent themes from the UAE studies include 1) students' and instructors' technology readiness and their attitudes towards E-learning; 2) students' and instructors' views and experiences with BL approach; 3) BL tools and technologies (mobile learning and social-networking sites); 4) BL resources (Blackboard Learn, video content, online discussions, and Google Docs); 5) impact of BL. Twenty studies have been used for this review. The primary audience for this annotated bibliography is BL researchers.

Keywords

blended learning approach, students' attitudes technology, e-learning, technology readiness, mobile learning, social networking sites, learning management systems, blackboard learn, video content, online discussions, google docs

NOTE: The full version of this paper is provided in the Full Papers section below.



SESSION 21: Higher Education Students' Experience of Distance Learning During COVID-19



Dr. Olga Samsonova holds two Masters Degrees, one in Early Childhood Education with Special Education endorsement from Brooklyn College, USA (2009) and the other in History from Simferopol State University, Ukraine (1999). She earned her Ph.D. in Learning, Instruction, and Innovation from Walden University, USA (2017). She has 20 years of experience in adult continuing education and K-12 environments.

ABSTRACT

As a result of the COVID-19 pandemic, all schools, colleges, and universities in the United Arab Emirates (UAE) were closed and transferred into the distance learning mode. Eighteen female undergraduate students at an Abu Dhabi federal college enrolled in an educational summer class were the study participants. This study aims to find students' readiness, perceptions, and feelings towards distance learning (DL) utilizing a mixed-method research approach by examining students' reflective journals and their responses to the questionnaires consisted of qualitative and quantitative questions. Multiple categories emerged from the study: advantages and disadvantages of DL, assessment description, Blackboard set up, communication with the instructor, Collaborate Ultra, Nearpod, Padlet, classroom discussions, group work, and media resources. The study's notable findings showed that college was ready and students were well prepared for the DL. They felt supported by the administration and staff. Future research on DL and findings implementation were discussed in the study.

Keywords

distance learning, Blackboard, Collaborate Ultra, Nearpod, Padlet, discussions, media resources



SESSION 22: Universal Design for an Inclusive Student-Driven Online Course

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Carl Edlund Anderson is an Assistant Professor at the Facultad de Educación, Universidad de La Sabana (Bogotá, Colombia). Currently Editor-in-Chief of the Latin American Journal of Content and Language Integrated Learning (LACLIL), he also serves on the scientific committees of GIST Education and Learning Research Journal and Scandia: Journal of Medieval Norse Studies. He has published papers on various topics in the humanities, social sciences, and physical sciences in indexed journals and books from international academic publishers. He holds an A.B. in Folklore & Mythology from Harvard College and a Ph.D. from the Faculty of English (Department of Anglo-Saxon, Norse, & Celtic) at the University of Cambridge, as well as a CELTA from the British Council in Bogotá, Colombia. His research interests include rhetorical communication, CLIL, Germanic philology, and Colombian minority languages and cultures.



Dr. Liliana Cuesta Medina is an Associate Professor at the Master's programs in English Language Teaching at the Faculty of Education, Universidad de La Sabana (Chía, Colombia). She holds a PhD in English Philology from the Universidad Nacional de Educación a Distancia (UNED-Madrid, Spain), a B.A. in English and Spanish from the Universidad Pedagógica Nacional (Bogotá, Colombia), and a Specialization in Applied Linguistics to the Teaching of English from the Universidad La Gran Colombia (Bogotá, Colombia). She has been involved in national and international teacher development programs, mainly in EFL, e-learning, and e-tutoring. Her research areas include CALL, CLIL, teacher education, academic writing, cyberbullying, and learners' self-regulation in blended/virtual learning environments, on which topics she has published in a number of indexed journals and conference proceedings. Currently she is the Academic Coordinator of the Master in English Language Teaching programs at Universidad de La Sabana and she serves as an evaluator for the National Accreditation Council in Colombia and various ELT programs in the country.



Rosa Dene David is a research advisor at Universidad de La Sabana in Chia, Colombia. Rosa has worked in a wide variety of teaching contexts and has supported students and teachers from various language and cultural backgrounds. She holds a Master of Arts in Teaching English to Speakers of Other Languages from Portland State University and has taught in the United States, Bolivia, South Korea, Mexico and Colombia.

ABSTRACT

Many institutions of higher education have sought to increase student enrollment and keep abreast of the latest technology-assisted modalities to support learning. Programs have often been implemented through trial and error, frequently replicating the kinds of “traditional methods” already used in on-campus courses, with the only change being the shift to an online environment (Barker, 2002; Dabbagh, 2001). Thus, there is an urgent need to consider how new kinds of learning objectives should be met through new kinds of online course design (Álvarez Ayure & Cuesta, 2011; McAvinia, 2016; Swaggerty & Broemmel, 2017).

This presentation reports the results of research on the effects of a top-down course redesign in an online graduate program at a Colombian university. A pre-existing online course that largely reproduced traditional lecture-based teaching approaches, with a lack of supporting audio-visual materials and a severely limited amount of student-professor contact time, was completely refashioned around the precepts of universal design (Edyburn, 2010; Rao & Torres, 2017). The objective was to produce an inclusive, student-driven, multi-modal online course appropriate to 21st-century learning needs, better supported with audio-visual materials for input and feedback to maximize student-professor contact time.

The redesigned course was tested for a period of one semester with 10 participants: 8 students and two instructors. Data were collected from student artifacts, surveys, and interviews and analyzed to assess the effects on student performance as well as both student and instructor perceptions. Results suggest appropriate online course design can have a positive effect on learning outcomes, but also that genuinely student-driven pedagogical approaches that not only promote but require learner agency can discomfit students who are accustomed to “traditional” models which place fewer demands on them. This suggests a need for further research on ways to adjust attitudes and expectations amongst adult online learners.

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Keywords

blended learning, universal design, course design, instructional design



FULL PAPERS





Paper: Lessons from “Lockdown”- Blended Learning: A Potential Approach to Design Education

Manju Sugathan

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Keywords: learning modality, Blackboard Collaborate, rich picture, qualitative method

INTRODUCTION

The lockdown has challenged the current higher education system across the globe. In view of that, higher education institutes in India have made a significant effort to maximize digital technology use to conduct and deliver lectures online (Awogbenle, 2020; Labar, 2020). This was possible due to the advances in educational technology during the last few decades and it proved to be immensely useful during the pandemic (Chatterjee & Chakraborty, 2020). The present scenario created an atmosphere for technology-embedded learning in higher education. Our policymakers and educators started to think beyond the current situation to reform the Indian higher education and create a resilient system that can support equality, excellence, and expansion. The UGC (University Grants Commission) committee recommends 25% of the syllabus should be taught online and the Ministry of Human Resource Development is in the process of formulating a National Policy on education that can adapt to the post-lockdown higher education system (University World News, 2020).

Blended learning is an approach that combines online with face-to-face (f-2-f) learning using appropriate Information and Communication Techniques (ICTs), where learners and faculty work together to improve the teaching and learning experience. The main technological components required for blended learning are a) technology infrastructure, b) instructional technology and c) technology in learning. To develop and design a blended course, it includes five main iterative phases, which are 1) course content design, 2) course development, 3) course implementation, 4) course evaluation, and 5) course revision (Olapiriyakul & Scher, 2006).

Blended learning can be designed in various ways:

- A combination of technology and software used as teaching and learning aids (e.g., power point, video media player, adobe, etc.)
- Learning management system to support online classrooms (e.g., Blackboard Collaborate, Google Chrome, Coursera, etc.)
- Recording and archiving of online lecture/flipped classes
- Hands on experience using laboratory/workshop classes on campus followed by concentrated time studying online
- Hybrid classroom learning that enables students coming to campus for specific in person sessions (Bates, 2015; Pandey, 2019).

Due to the flexibility in learning activities learners are able to achieve better outcomes and higher order learning; for faculties online can improve teaching methods and class management practices. According to Pektas and Gurel (2014) design education has not been researched extensively with regard to online learning and further research is required to integrate hybrid and blended learning techniques in higher



education.

Pearl Academy is one of the leading private design institutions in India, globally renowned for higher learning with a core purpose to provide education and service for the development of the society. The academy is committed to excellence, innovation, student satisfaction and development through self and shared efforts. Pearl Academy introduced blended learning in 2012, with focus on efficient and effective instructional methods in teaching and learning, involving the usage of personal computer, smartphones and other electronic media. Garrison (2004) states that an institution to fully realize the benefits and outcome the challenges associated with blended learning in higher education, the transformational leadership needs to be exhibited by senior administration. This leadership consists of three interrelated co-elements: vision, interpersonal skills and courage (Bansel, 2014). It is institution's vision to adapt to blended learning, in order to provide a holistic learning experience using hybrid methods in Teaching Learning and Assessment (TLA). This helped the institution to seamlessly implement fully online TLA, using Blackboard Collaborate during the lockdown.

The faculty and students were able to adjust with the situation, and start the online teaching and learning as soon as the lockdown happened across the country. The academy also provided refresher training and support from IT for faculty and students to continue their learning without disruption. The Faculty Development Programs and Coursera course on 'virtual teaching specialism' supported professional development of our faculty on effective online pedagogy, making online teaching creative, innovative and interactive using user friendly online tools like Blackboard Collaborate and Zoom cloud. However, the important question that need to be answered is "how much our students are prepared to learn fully online"?

Our education systems are trying to impart quality education for the students during the lockdown period. However, many students faced problems due to the lack of digital infrastructure in the country. This relates to internet connectivity problems and discontinuous supply of electricity. Moreover, majority of the students at home/living space have undergone psychological and emotional distress and have been unable to engage productively in their learning (Petrie, 2020).

The above-mentioned literature indicates that despite of the challenges during the lockdown, online learning offers opportunity for educational institutions to rethink the overall purpose role, content and delivery in the long term. The higher education system has to deal with the "current and future crisis through comprehensive and inter-sectorial approaches and by tapping into collective experience and practices from and around the world" (UNESCO, 2020).

This paper considers a blended learning system for post-lockdown times. The focus is to analyse fully online classes during the lockdown period, to develop a strategy that could be adapted by the institution in future. The research is carried out in two stages using qualitative methods.

Stage 1 is to identify the impact of change from Pearl Academy's blended learning modality to a "fully online" modality during the lockdown and its impact on students' overall learning in a practice based creative course like design. It examines the experiences of the students' learning and cognitive presence online.

Stage 2 is to understand and interpret the insights of students and faculty towards "fully online" and blended learning, using focus group interviews with students and individual telephonic interviews with the faculty.

METHODOLOGY

This paper adapts a Rich Picture (RP) originated from the Soft System Methodology (SSM) of Peter Checkland (Checkland 1981; Checkland & Scholes, 1990). The RP provides an unstructured way of



capturing information flows, communication and in essence the human experience of complexity. These pictures are used to capture meanings, associations and non-verbal communications to propose pre-deliberative analysis and assessments, which can on occasions through their spontaneity, serendipity and creativity offer unforeseen and unbiased insight into differing perceptions (Bell & More, 2010)

Soft Systems Methodology shares the same epistemology as in participatory approaches. It provides space for individuals to interact and share insights with focus towards problem solving at least at the initial stage by sharing in a diagrammatic process. The starting point of Soft Systems is a rich picture in the form of diagram and their linkages (Berg & Bell, 2019).

Stage 1

The key problems in fully online learning are identified from the literature review and direct observation of twenty-eight recorded online lectures on Blackboard Collaborate (BBC). To represent the key problems, situations and their relationships the Rich Picture technique from Soft System is adapted (Figure 1).

The key issues identified within the rich diagram include:

- **System readiness:** Accessibility to infrastructure and resources e.g. internet and continuous electricity supply. These hinders online lectures and continuous smooth learning. It is also noticeable that students in rural areas do not/less access to ICTs.
- **Student disengagement:** The academic module types consists of theory, tools, studio and a project. Compared to f- 2-f classes, the faculty has less control over teaching, and students are more likely to become disinterested (Sharma, 2020). Also, at home students' require support from parents in both their learning activity and economic support (Pokhrel & Chhetri, 2021).

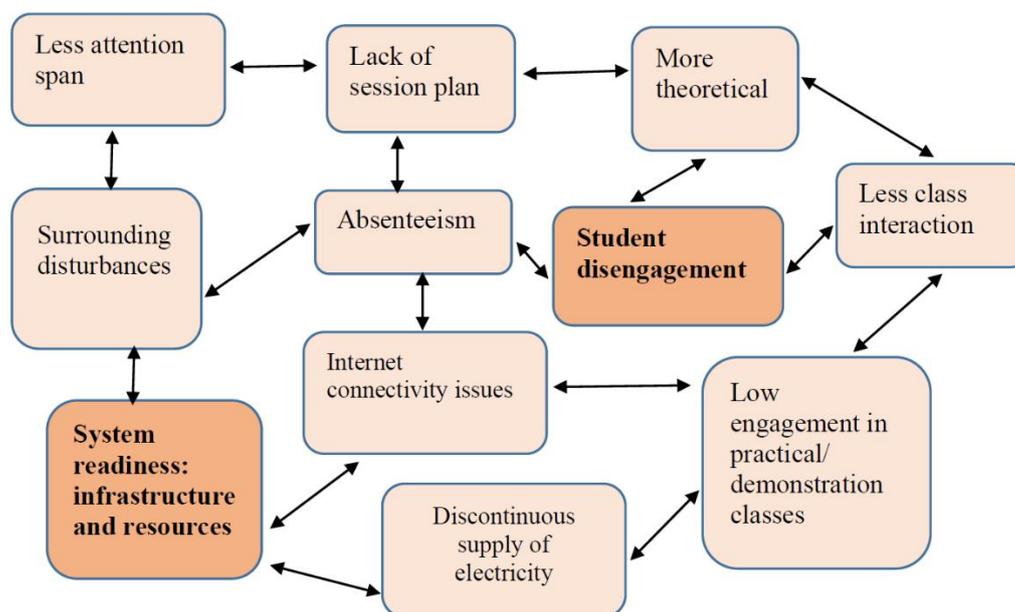


Figure 1: A rich picture of problem situation in fully online TLA, identified from recorded Blackboard class observations and literature

This paper focus upon a blended learning strategy that can be adapted by Pearl Academy in the post-lockdown period. The existing literature and findings related to benefits of blended learning and fully online learning during the pandemic lockdown are core source of secondary data. From the literature studies, an initial set of factors related to blended learning and key issues in fully online learning, were identified. The



initial observation of fully online classes on Blackboard Collaborate provided a tentative understanding to inform following studies. The findings from the literature review and the online class observations were combined to structure the data collection methods like focus group interviews with students and individual telephonic interviews with faculty.

Stage 2

Two separate focus group interviews were conducted with students from School of Design (SOD) and School of Fashion (SOF). Focus groups lasted for 40-45 minutes consisted of eight participants in each. The topic was based on their experience of “fully online” learning during the lockdown and what kind of blended learning they would prefer in the future? This was conducted to uncover the challenges faced by the students during “fully online” TLA and what changes should be made, in order to make blended learning more beneficial in future.

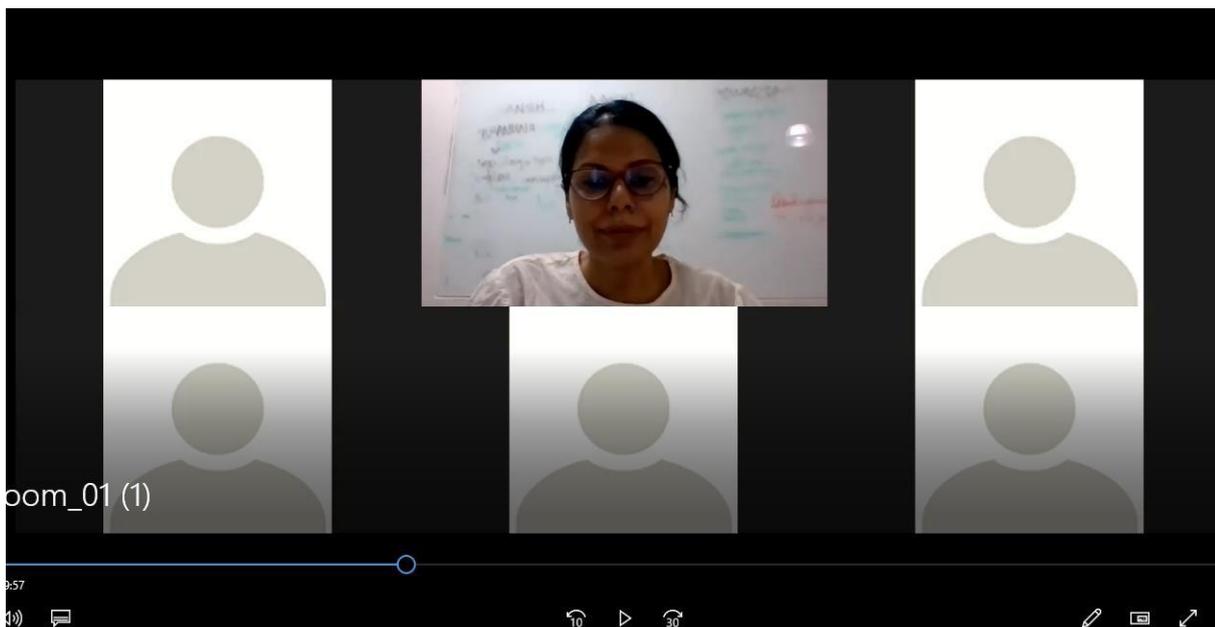


Figure 2: Focus group interviews conducted on a Zoom meeting with students

The aim of the focus group interviews was to get an understanding of, what encourages design students to involve in online active learning. According to (Heron & Reason, 2006), the faculty can enhance effective learning through four ways of knowing via, corporative enquiry.

1. Propositional knowing: is the knowing of facts through ideas and theories
2. Experiential knowing: is achieved through different experiences in the classrooms, which leads to deeper learning and understanding of the topic
3. Presentational knowing: is the ability for the students' to represent and reflect explicit and tactic knowledge in verbal and written means
4. Practical knowing: is knowing how to exercise a skill and put it to action.

The focus group interviews were based on three open-ended questions:

- Which teaching method do you prefer: fully online, blended or f-2-f?
- Which type of module is most effective to learn online: theory (literature and case studies), tools (field study trips, Computer Applied Design (CAD), and market study), studio (lab work and workshops) or project (design projects) modules?
- Do you feel the lockdown has affected your learning experience?



The focus group interviews were conducted on Zoom meeting (Figure 2). The meetings were recorded and transcribed. Then they were categorised and analysed under four ways of knowing: Propositional knowing, experiential knowing, presentational knowing and practical knowing, as outlined above.

Table 1: Focus group coding under propositional knowing

Student learning experience	Propositional knowing: is the knowing of facts through ideas and theories.
f-2-f	<p>“Design is a very practical thing and you need hands on experience; when it’s on line it’s more of theoretical not very interesting, so I prefer f2f.”</p> <p>“You understand what is going on, when you do it, that is why I prefer offline classes plus you get to interact with teachers and students, you understand things better.”</p>
Fully online	<p>“Theory classes can be online as long as it is interactive and discussions happen online.”</p> <p>“Theory and software can be taught online it depends on the students’ capability to learn and catch up to it.”</p>
Blended	<p>“If the project is digital it is ok, but when it becomes hands on it is difficult. Blended for mentoring but not for hand on part of it.”</p> <p>“For practical classes, the students in front used to pay attention the one at the back were always confused. It is in a faster pace online because everyone can go and see the same recording as many times as they want.”</p>

Propositional Knowing

Propositional knowing can happen on a blended learning system, where theory subjects are taught online or offline. This is the case, as long as these are interactive sessions, which are more discussion-based. The majority of students who participated in focus group interviews commented that online learning reinforced or strengthened their learning by watching the recorded classes. By engaging in blended learning, students can demonstrate deep learning through f-2-f practical classes and exploration of secondary data and discussions online.

Table 2: Focus group coding under experiential knowing

Student learning experience	Experiential knowing: is achieved through different experiences in the classrooms, which leads to deeper learning and understanding of the topic.
f-2-f	<p>“More interactive and feel more personally connected to the teachers and mentors.” “Offline we can completely focus on our work, at home there are disturbances.”</p> <p>“When we are in the college that work experience and the environment; then our complete focus is in our studies and not any other things.”</p> <p>“That experience of learning at collage is different than learning from our laptops.”</p>



Fully online	<p>“Internet connectivity issues as most of my classmates cannot join.”</p> <p>“We have the liberty to attend it from anywhere, so we don’t put that much attention and don’t try to be like giving 100% to it sometimes. It gets boring after some time because we can see the recording later.”</p> <p>“Some students are not very interactive because they are not confident to talk, for those moments a real class is better, because with the eye contact the teacher can understand something is going on and this person might need a little more help, it becomes a bit difficult online.”</p> <p>“If I make mistakes and unfortunately, if that mistake goes unnoticed online and not rectified, then I would go ahead learning the wrong thing and I am afraid about it.”</p>
Blended	<p>“We had a module, which was very good with the international faculty. We got to learn from an international perspective, so blended can work for selective modules.”</p> <p>“Blended is good we can be with the faculty in our campus and still follow online with other teachers in other campus and recordings of lectures from international faculty that kind of learning will be best.”</p>

Experiential Knowing

Experiential knowing, extends beyond f-2-f knowledge as higher order learning happens through: exposure to master classes from industry, designers and international faculty, interdisciplinary collaborative projects within Pan India Pearl Academy campus. Also, international collaborative projects with international students. As the name suggests, this knowing is characterised by more substantial experiential dimension.

From the research, it was evident that the students were engaged in collaborative learning and experiential knowing can play very significant role in blended learning.

Table 3: Focus group coding under presentational knowing

Student learning experience	Presentational knowing: is the ability for the students’ to represent and reflect explicit and tactic knowledge in verbal and written means.
f-2-f	“Clear doubts, sitting with a mentor reflect on your ideas makes a difference.”
Fully online	<p>“Projects mentoring can happen online with faculty and rest is based on you. What you want to do and how you want to do? It’s a very individual thing.”</p> <p>“The human interaction we have in class, we talk to our peers that is more personal and more insightful than taking part in the discussions online, where some people participate and some don’t.”</p>
Blended	<p>“Online we can refer to the recordings that’s one of the key points, if there is something missed out we can go back and refer and get your doubts clear.”</p> <p>“I haven’t given much attention to books before the lockdown now lot of the time I go through the books constantly and at the end we stopped asking many questions to the faculty, we used to try and figure it on our own and not go straight up to our teacher and ask how to do this.”</p>

Presentational Knowing



In the case of presentational knowing, students need a platform to reflect and express their views and learning with their peers, through critical examination of work. This can happen online and offline. All students made use of the social media tools and online line resources to reflect and critically analyse their work.

Table 4: Focus group coding under practical knowing

Student learning experience	Practical knowing: is knowing how to exercise a skill and put it to action.
f-2-f	“Since our course is more practical than it is theoretical and skill based; it is very important for us to be in college campus using different resources available to us. Even when we are doing mistakes we have teachers to correct us. At the moment it is difficult that we make a mistake and wait for next class to get it corrected. It is better doing it in the class.”
Fully online	“When we are at class we can have faculty attention and peer discussion that kind of contact is missing while you are on online classes, but on the brighter side now we can have classes with the Pan India faculty and from all over the world.”
Blended	“The assignments were about the blog. Faculty gave us assignments weekly and that assignment was uploaded on the blog and in class everyone present it. The class was very interactive because everyone wants to see what their friends did and we did it in our own way, we all have done it in 10 different ways, than doing it in one way.”

Practical Knowing

Practical knowing extends beyond classroom and laboratory demonstrations; students can review and reflect on recorded sessions and online learning resources that supports independent explorations.

In a blended learning system teaching presence is important. The curriculum is designed by the faculty and the teaching methods are formulated to achieve the Course Learning Outcomes. According to Garrison (2007) teaching presence should be part of blended learning, as the teachers design the curriculum, developed the teaching methods, facilitated discourse and gave direct instruction to students.

BLOOMS TAXONOMY ON BLENDED LEARNING

To gather rich information and develop a blended learning system for future; individual telephonic interviews were conducted with nine faculty members from School of Design and School of Fashion in Pearl Academy. The open interview method was used for data collection and transcribed for research purpose. The interview question was:

Based on your experience on fully online TLA, please share your insights on formulating a blended learning system for post lockdown period?

The data collected was analysed under Bloom’s taxonomy in blended learning (Bath & Brouke, 2010).

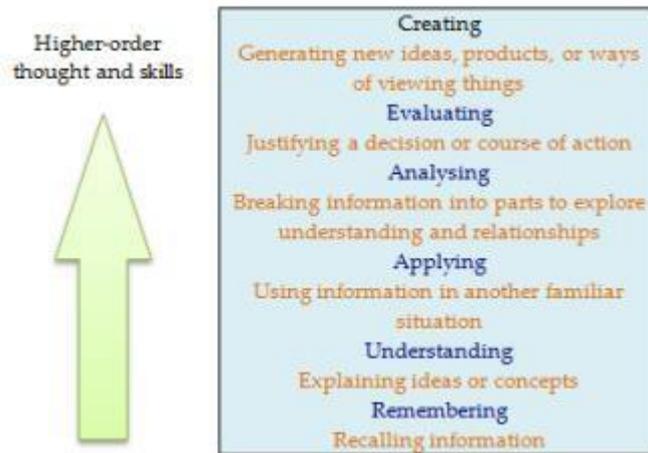


Figure 3: Blooms taxonomy in blended learning (Bath & Brooke, 2010, p. 26)

Figure 3 provides various activities in blended learning to achieve higher order teaching and learning. It offers interactive activities involved in blended learning - combining traditional face-to-face and online learning. In f2f modality, faculty may maximize overall learning experience in a classroom using different methods like debates and discussions, along with real time feedback. By means of hybrid/blended learning, the faculty can further enhance and maximize learning activities and assessment methods to achieve the Learning Outcome of their course.

The telephonic interviews with faculty members were analysed using types of Bloom's taxonomy activities (Bath & Brooke, 2010), which helped the researcher identify various TLA activities that could be applied to achieve an improved blended system of learning in future.

1. **Creating: Designing, Constructing, Planning, Producing and Inventing**

All interviewed faculty members were keen to use social media like Pinterest and Instagram as a platform for contextual research. Using these platforms students can analyse existing designs online and gather information for further idea generation.

Faculty A: This helps them to think out of the box and realize 'what triggers their mind while exploring for ideas'. Generation Z are more engaged in virtual entertainment like Netflix and Amazon Prime Video. Here, the faculty can develop discussion and engagement based on certain shows like "Black Mirror" and "sense8".

Faculty B: For hands on and result-oriented subjects like draping and pattern making; methods such as setting up two cameras, one on a tripod and other on BBC were found to be effective. Step-by-step activity in the process is recorded and posted on BBC for the students to practice and explore. One interviewee is of the opinion that design as a subject is easy to adjust, suggesting teachers must adapt to teaching online and offline; a smart class system will definitely work.

The findings on students' engagement in achieving the learning outcomes confirm that Pearl Academy students are driven by intrinsic motivation with the mastery of goal orientation (Watkins, 2009). In this case, their goals were not only to achieve the learning outcome but were associated with explorative techniques using technology. Online platforms opened a wide range of opportunities to explore and experiment with their work in a social platform to reflect and resynthesize their concepts.

2. **Evaluating: Checking, Hypothesizing, Critiquing, Experimenting, Judging and Testing**



Faculty C: theory modules being taught online, because it provides the tutors with many visual and audio tools to engage the learners, which don't work very well in f-2-f teaching. Watching a video in a dark classroom is not as engaging as watching it on their laptop screen, because these videos (edutainment) are not made for mass viewing.

Faculty C: To discuss topics like Gender Fluidity or connotations, which are intense and usually have a personal, emotional response, becomes easier to do online because it gives a certain anonymity that induces a more honest interaction. According to her, learners feel safer online when engaging in discussions, as it takes away the pressure of dressing up, looking good, worrying about being judged by their appearance and therefore makes the online space safer to voice opinions.

Faculty D: Online screen-share features made it easy and more impactful method for textual content to be delivered in the form of presentations/document referencing, allowing for easy personalized access for every student. Subjects like CAD digital skills became easier to grasp/learn and it triggers simultaneous practice for students because of an easy and direct access to demo screen on LMS.

Faculty C integrated online activities to encourage students to reflect on a hypothetical concept to reinforce and apply their subject knowledge through open discussions. Faculty D was able to achieve better results in CAD learning online using LMS features. These techniques made the learning more effective. This confirms blended approach is more holistic and effective to provide an overall learning environment (Bu & Bu, 2012) and connects learning in and beyond the classroom (Bentley, 1998).

3. Analysing: Comparing, Organizing, Deconstructing, Interrogating and Structuring

Faculty E: Ease of speaking is a prominent part of f2f interaction. Despite this pushing students towards exploring the online medium helped to expand their research using technology. Also, through social media like Instagram, students can post their work online and get a wide audience, during their learning. They can collect primary data from anywhere around the world. Online platforms also provide data statistics, which makes their quantitative analysis easier.

Faculty D: Another positive factor is that Gen Z learners are used to visual and auditory stimulation found on the digital platform. When a tutor interacts with them on the same platform they become a part of a familiar space and interaction style. Especially in a theory subject, which can easily become "boring", online platform can make it comparatively exciting and interactive. It is clearly evident that students were less reliant on the faculty for source of knowledge, instead utilizing the faculty is a facilitator for learning. In order to be a facilitator, the faculty should have a clear understanding of students' motivation to engage in online or blended learning (Vaslabrouck et al., 2018)

4. Applying: Implementing, Carrying out, Using, Executing and Editing

Faculty F: For a theory module, fashion design students made styling videos, up-cycling videos, time capsules, Pinterest boards, online journaling for writing reflections using Trello software, photography, debates, and PowerPoint Presentations. For teaching purposes faculty use: YouTube videos, movies, discussions and interactions, dressing up for the online class as per an era, sharing exemplars, PowerPoint Presentations, music, polls, peer reviews etc. For assessment and archiving students' work OneDrive folders are used. These methods helped in activity-based assessments because the online environment and associated tools can support different learning modalities like visual, auditory, kinesthetic, verbal, logical, social and solitary.

Faculty B: Pinterest and Instagram are in use to store students' visual research and share the link for faculty review. During their jury assessment, it saves time and space in their presentations. The jury can click the link and view the visuals.



Continuous guidance, support and monitoring of work is required to direct students to utilize online tools appropriately. Additionally, professional development programs are made available to faculty, specifically for online pedagogical and technological skills. All faculty members at Pearl Academy completed a Coursera certificate course in 'virtual teaching specialism', which widened their online teaching skills.

5. Understanding: Interpreting, Summarizing, Paraphrasing, Classifying, Explaining, Comparing

Faculty H: Activities like building mind maps, blog journaling, vlogs, podcasts, tagging with comments or annotations on social media discussion forums assist our students to understand topics in-depth and interpret it through reflections and critical analysis.

Faculty D: Online discussions around students' work was suggested to help with peer learning. Moreover, it provides real time feedback from faculty members also. The online study model seems to be a very effective tool for subjects, which require a day-to-day follow up and exchange. These capabilities vastly added to student's productivity and time management.

From the above it is clear that, when students face problems to understand a concept; then they discuss and explore the solution with information exchange. These discussions help them to integrate their learning by connecting their ideas and resolve problems by applying new ideas.

6. Remembering: Recognising, Listing, Describing, Identifying, Retrieving, Naming, Locating

Faculty I: Activities like recollecting a classroom lecture, faculty post online quizzes with instant results. This allows them to know what is wrong in student learning and they must focus on improving before retaking it. Q&A and discussion forums are mostly used to help students review their learning material, engaging them and reflecting on the material they have read or worked with outside the class. It is also important for the faculty to keep updating themselves with new ways to engage students and be open-minded about the immense possibilities in online synchronous and asynchronous teaching methods.

On online platforms students who were not able to respond to the online quiz are able to refer their learning material or ask their peer and faculty. In f-2-f classroom they typically go back to the faculty to clarify their doubts but online through communication they can independently solve their problems.

Coming back to the key issue identified using the rich diagram (Fig 1), the accessibility to infrastructure and resources like internet and continuous electricity supply is partially correct. In order to overcome these challenges, the government has to come up with reformed 'internet governance' to expand the infrastructure with high speed and feasible rates by breaking urban rural divide (Reddy & Madepalli, 2021).

However, blended learning allows the student to access the study materials anytime from anywhere and provide a flexible platform to adapt with difficult situations.

The second key issue identified was student disengagement in a fully online class. In a blended learning system, it is a combination of synchronous and asynchronous tools with a variety of representational capabilities that complement each other that create a positive learning atmosphere (Pektas & Gurel, 2014). Widespread use of modern technology in TLA, helps our students learn and communicate with teachers and peers independently from a comfortable place of their preference.

CONCLUSION

This research explores student learning experience in fully online classes to identify a blended learning strategy that could be adapted for better efficacy in future. The online Teaching Learning and Assessment models were examined and the results show that students are able to apply their cognitive skills more effectively to explore technology and achieve higher order learning.



The empirical data reflects, effective expression of ideas by students using debates and discussions leading to communication with peer and faculty online. Explorations and data collection by means of social media platforms enhance their knowledge with the help of collaborative learning and should be closely monitored by faculty for data protection and maintain ethical standards. The master classes from industry, designers and design academicians from Pearl Pan India, National and International faculty support and encourage students to follow a holistic approach in conceptualizing and ideating design projects.

However, learning autonomy is missing in a fully online class and this can be bridged using a blended learning; where students can explore their secondary learning material and data collection methods using learning resources and social platforms in a creative and problem solving fashion. These techniques make learning of *theory* subjects easier online. The research data shows, *tools* like CAD can be taught online by sharing screen between faculty and students on LMS.

Studio subjects, which involve laboratory work should happen f-2- f. Finally for *projects*, students can be mentored online for concept development and initial exploration stages, experimentation and ideation of designs should happen f-2-f under faculty supervision. Class recordings support students to access it anytime for revision/ clarifying doubts, also it supports step-by-step learning and practice in studio or lab. The students can do electronic submission of their work for assessment and juries can happen online.

The limitation of this study is that the findings are not tested qualitatively and in large number of participants. However, the paper is not aimed at testing the efficiency of blended learning in future but identifying online methods combined with f-2-f that will provide maximum learning experience of students in the future. While students are using different online tools, the engagement and effectiveness of these tools needs to study in depth. The core faculty has to design their blended teaching weighing the merits and demerits of technology in development of learning content, its implementation, evaluation and revision. This study has brought light to the opportunity that blended learning and fully online modalities offer in design, and is worthy of further substantial enquiry.

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Paper: Blended Learning Approach in UAE Higher Education: A Selected Annotated Bibliography

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Keywords: Blended Learning Approach; Students' Attitudes Technology; E-Learning; Technology Readiness; Mobile Learning; Social Networking Sites; Learning Management Systems; Blackboard Learn; Video Content; Online Discussions; Google Docs.

INTRODUCTION

The central location made the United Arab Emirates (UAE) an economic and educational hub in the Middle East, and higher education is a primary contributor to the country's economy (Jose & Chacko, 2017). Thus it is significant to educate its residents with high-quality standards using novel and suitable methodologies (Jose & Chacko, 2017). The UAE shifted from traditional to virtual classrooms and was named the "most-advanced E-learning country in the Arab world "(Taha, 2007, p. 353). In the county's vision for 2021, the UAE government promised to build education around research, innovation, technology, and science (Alkaabi, Albion, & Redmond, 2017) and called instructors to implement learning technology, independent learning, and collaboration into the learning process to prepare students for "a technological workplace" (Kemp, 2013, p.2). All of the governments within the Emirates have established authorities to ensure that the quality of education would be on the highest standards, and higher education in the UAE will become more competitive by raising educational standards and diffusing technology into the educational process (Alsharari, 2018). UAE universities adapted e-learning technology to drive students into independent learners (Randeree, 2008). In 2012, the UAE Ministry of Education equipped three federal institutions with iPads for the 2012-2013 academic year and encouraged these institutions to start mobile education "disrupting" traditional teaching and learning; new modules and activities were designed to support students learning (Gitsaki et al., 2013). LMS systems and Blackboard were embedded in the delivery of the courses (Alkaabi, Albion, & Redmond, 2017).

Since 1990, the BL approach has been considered a significant part of higher education (Smith & Hill, 2019). This methodology is known as a student-centered approach where students are exposed to finding information, using critical thinking skills, and being active participants (Randeree, 2008). Based on current research, challenges that BL instructors experience are 1) time preparation increasing; 2) not enough "technical and pedagogical skills"; 3) "students' responsiveness and discipline" (Sam & Soong, 2019, p.5). Some authors argued that it could be problematic for Arab students to adapt to the BL environment because of the nature of the activities as self-directed; plus, there is a "high score of cultural dimensions of UAE" (Kemp, 2013, p.3). The UAE learners' beliefs and preferences depend on their culture, and Western frameworks for E-learning are not useful for Arab learners due to cultural context (Hiasat, 2018; Kemp, 2013). There are barriers concerning BL implementations in the UAE and not enough research on students' and teachers' attitudes towards BL and their experience with BL (Moussa-Inaty, 2017). This selected annotated bibliography tries to cover the gap since this problem has received limited attention in the literature. It focuses on research outcomes from the UAE studies describing the central BL notions.

Keywords searched included blended learning approach in the UAE; higher education in the UAE; UAE students' attitudes technology; UAE E-learning; UAE technology readiness; UAE mobile learning; UAE social networking sites; learning management systems in the UAE; Blackboard Learn usage in the UAE; video content in the UAE; online discussions in the UAE; UAE Google docs. The results were limited to peer-reviewed articles published within the last six years. The following database was used for the search: *Google Scholar*; *Education Database* (ProQuest); *Education Source* (EBSCO); *ERIC* (EBSCO); *Explora Educator's Edition* (EBSCO).



ANNOTATED BIBLIOGRAPHY

Students' Attitudes Toward Technology and E-Learning

Andrew, M., Taylorson, J., Langille, D. J., Grange, A., & Williams, N. (2018). Student attitudes towards technology and their preferences for learning tools/devices at two universities in the UAE. *Journal of Information Technology Education: Research*. Retrieved from <https://eric.ed.gov/?id=EJ1191028>

This mixed-method study aimed to find students' attitudes towards technology, their favorite learning tool or device, their preferences among books and technology tools for the learning process, and see if there any difference in opinions between two UAE universities and two programs. 1102 Arabic undergraduate students participated in this research answering survey questions, and 9 of them joined three focus-group semi-structured interviews. Study participants at both universities agreed that technology is beneficial in the classroom, and 70.3 % of them stated that technology improves learning. However, paper and books were chosen as preferred learning tools at both universities.

Laptops were the other preferred learning tool due to their ease of use. Tablets and phones were less favored. Foundation Studies students had more positive attitudes toward technology due to language apps' availability, while General Studies students with STEM courses that contain hands-on activities less likely used technology for learning and prefer books and paper to assist them in their education.

In conclusion, the authors mentioned some study limitations. Study participants had different course instructors; some of them incorporated the BL approach, and some of them did not, that could impact the technology use level. Besides, study participants were surveyed about the use of technology while being in the classroom. The researchers recommended another study about the use of technology for learning while being outside of the classroom.

Toufaily, E., Zalan, T., & Lee, D. (2018). What do learners value in online education? An emerging market perspective. *E-Journal of Business Education and Scholarship of Teaching*, 12(2), 24-39. Retrieved from <https://search-proquest-com.ezproxy.hct.ac.ae/docview/2125613880?accountid=1215>

This qualitative research study was conducted within higher education institutions in the MENA region. The participants belonged to 12 different nationalities: 18 undergraduate and postgraduate students enrolled in hybrid or online programs and 12 undergraduate and graduate students enrolled in face-to-face programs. Conducting semi-structured interviews, the authors aimed to explore students' perspectives-perceived values on e-learning before, during, and after their experience with e-learning.

Describing results, the authors pointed out that before the e-learning stage, the functional value was associated with flexibility and convenience. The conditional value was related to the lack of specific courses and programs and poor credibility of some diplomas. The epistemic value was linked to the educational experience novelty, and the social value was related to cultural and family preconceptions.

During e-learning, the perceptions of values have changed. The functional value was associated with the role of the instructor, extremely positive experience with technology and different social media platforms as YouTube and LinkedIn, and satisfaction with the online curriculum. The belonging value was related to tools of real-time communications with the instructors and classmates, using social networking. Finally, the emotional value was linked to students' fun and enjoyment using social networking for interactions and sharing information.

After the e-learning experience, personal values were satisfaction and self-actualization. Functional values were academic achievement, career advancement, and employment opportunities. Epistemic values determined were new knowledge and novelty.

Tubaishat, A., & Lansari, A. (2011). Are students ready to adopt e-learning? A preliminary e-readiness study of a university in the Gulf Region. *International Journal of Information and Communication*



Technology Research, 1(5). Retrieved from <https://pdfs.semanticscholar.org/e9b5/e5d54f1efdf918a4efa95beb45a6b0116d13.pdf>

This survey study was conducted with 67 UAE students taking the BL course. The questioner focused on students' e-learning readiness, such as Internet usage, their perceptions of e-learning and their computer skills, infrastructure, confidence development, and their preferred mode of communication. The survey analysis indicated that all students own computers, and 99% of them have an Internet connection at home. Based on the survey results, 93% of students specified that e-learning enhanced their technical skills, and they became independent learners with online materials. 85% of the responders stated that e-learning improved their performance. Overall, the majority of the students (78%) mentioned that e-learning positively contributed to their learning experience, and they were ready to take any BL course in the future. However, 78% of male students and 63% of female students said that they prefer face-to-face communications.

Instructors' Attitudes and Technology Readiness

El Alfy, S., Gómez, J. M., & Ivanov, D. (2017). Exploring instructors' technology readiness, attitudes, and behavioral intentions towards e-learning technologies in Egypt and the United Arab Emirates. *Education and Information Technologies*, 22(5), 2605-2627. doi:10.1007/s10639-016-9562-1

While collecting data at two private universities in the UAE and Egypt, this research explored instructors' human interactions, technology readiness, behavior, and attitude towards e-learning. The research sample contained 31 responders that answered a two-part questioner that was analyzed with the Mann-Whitney U non-parametric test. The results indicated that there is no significant difference between technological readiness, behavioral intentions, and attitudes of Egypt and UAE instructors, and they displayed a moderate level of technology readiness with only a 2% mean difference from Egypt. Though the human interaction preference is relatively high in both countries which share similar cultural values, according to the authors' suggestions, it can affect instructors' behavior intentions towards e-learning. Preference to face-to-face interactions was slightly higher in Egypt, and it was explained by the fact that in the UAE, most of the instructors are expats committed to using e-learning as institutional requirements regardless of their preferences. To raise the level of instructors' innovativeness and technology readiness, the authors suggested educational training as part of their certification and professional development.

BL Approach: Views and Experiences

Almansoori, S., & Akre, V. L. (2016). Roadmap for enhancing efficiency and effectiveness of Blended E-learning in Higher Education: A UAE case study. *International Journal of Education and Information Technologies*, 10, 176-185. Retrieved from <https://pdfs.semanticscholar.org/fd31/df927d08f8edc95f8b5acf2a5240c74c21f0.pdf>

The authors conducted this case study in the UAE Higher Educational Institute with 17 graduate students enrolled in a blended e-learning course that incorporated Edmodo and Zoom technologies and synchronous and asynchronous methods along with the teacher of this course. The goal of this research was to propose and validate a roadmap of successful blended e-learning. The primary investigation was conducted with both qualitative and quantitative methods by surveying 45 participants and interviewing four experts. As a result, a roadmap for blended e-learning was proposed based on the following factors: characteristics and role of the students (including motivation to learn, technical and communication skills, cognitive presence and involvement), characteristics and role of the teacher (including teaching style, motivation to teach, experience, and level of explanation), social aspects (level of ethics and socialization), and course design (including course content and materials, rules, and levels of asynchronization and synchronization). Responses that came from the case study participants proved the effectiveness of a teacher's role and characteristics of the students. The course design was a weakness of the anticipated roadmap. The authors suggested to use shared materials and create specific course guidelines with video tutorials and screenshots.



Hiasat, L. (2018). Blended and experiential learning for Emiratis in tertiary education. *Journal of Asia TEFL*, 15(3), 874. doi:10.18823/asiatefl.2018.15.3.24.874

This single case study was devoted to the social processes of learning and teaching that happened in a BL environment in one program at a federal UAE tertiary institution. The data was collected by conducting one-to-one interviews with 11 faculty members, focus group interviews with 36 male students, and collecting relevant documents such as faculty reflections, syllabi, assessment strategies, and the Handbook for Higher Education Teaching and analyzing with NVivo 11 software. The research found that students gave their preferences to independent work and being accountable for it rather than working in groups. Due to cultural aspects, students experienced their education in connections with other events that happened in their lives and valued universal communications and honor. The majority of the students and faculty responded positively to experiential learning and founded it very suitable to the second language and visual learners. The flexible BL course structure was preferable in this case study, while the rotation course model was considered as problematic and did not meet the students' needs. The students pointed interaction levels and faculty personalities as main elements of the BL environment in addition to faculties' videos and introductions to the e-books that the students did not like to read. Based on the study results, the author made the following recommendations: 1) avoid tribal issues; instructors must be careful assigning group work and give students flexibilities to join these groups; 2) create the BL environment according to students personal lives; 3) use local examples of creating instructional material; 4) spend time on creating joyful BL environment and trust with students.

Kemp, L. J. (2013). Introducing blended learning: An experience of uncertainty for students in the United Arab Emirates. *Research in Learning Technology*, 21. doi:10.1016/j.lcsi.2015.07.004

The focus of this mixed-method research was to analyze the cultural dimensions of Uncertainty Avoidance in the introduction of the BL approach. Forty undergraduate students at a UAE university representing 80 nationalities, with 78% of them being from the Middle East, completed surveys prompted with student narratives about their experiences with BL classrooms supported by LMS and Blackboard. The themes emerged discovered implications for pedagogical changes:

- 1) instructors have to consider cultural background adapting the BL approach;
- 2) students require more clearly written and verbal teachers' directions;
- 3) diagnostic (why answers are wrong) and prescriptive (how the answers might be improved) feedbacks would give BL classes more structure;
- 4) instructor have to guide students over online material and facilitate online discussions;
- 5) links to library sources have to be embedded in LMS;
- 6) a research workshop must be introduced;
- 7) changing the exam format from written to electronic must be progressive.

In conclusion, the author stated that the uncertainty with BL happened when higher quality research methods were introduced to the class, the course structure was lacking details, and when group work was required membership. The study limitation was the fact that their instructor-survey creator made data collection.

Moussa-Inaty, J. (2017). Student experiences of a blended learning environment. *International Journal of Learning, Teaching, and Educational Research*, 16(9). doi:10.26803/ijlter.16.9.5

This qualitative research elaborated 72 undergraduate female Emirati students' online reflecting journals on Blackboard to examine their feelings toward the BL approach used for an education class offered in English. The participants were native Arabic speakers from different majors, and their mean age was 20.5 years. 43.5% of them preferred face-to-face learning modules compared to 37% who preferred BL. Expressing negative or positive feelings, the participants made references to the instructors or the course content. Some participants expressed that BL was very flexible and made them more accountable and independent, while others viewed it as challenges.

Tamim, R. M. (2018). Blended learning for learner empowerment: Voices from the Middle East. *Journal of Research on Technology in Education*, 50(1), 70-83. Retrieved from: <https://eric.ed.gov/?id=EJ1169530>

This qualitative research aimed to investigate university students' perspectives of the BL approach in Dubai



within their cultural context, which is known as quite conservative. 21 (3 male and 18 female) graduate students–working professionals from different programs were interviewed over the phone or in-person. Most research participants recognized themselves with high technical skills, but the university was their first opportunity to be engaged with BL; though, their new experience improved their self-confidence. Self-regulation and a learner-centered model were named as the challenges, mainly at the beginning of the study, but face-to-face sessions worked as support for the students. The author mentioned flexibility provided by technology, higher-order skills enhancement, social interactions with colleagues and instructors, and an online learning platform that minimized participants' feelings of isolation as the strengths. However, technical problems and faculty profiles with the variety presented content, online presence, and teaching styles were called BL weaknesses. Video option was founded as a cultural issue. The authors concluded that BL works as a support for female students to overcome social, geographical, and professional boundaries.

Shantakumari, N., & Sajith, P. (2015). Blended learning: The student viewpoint. *Annals of Medical and Health Sciences Research*, 5(5), 323-328. doi:10.4103/2141-9248.165248

Researchers used a cross-sectional study design to examine 75 UAE university medical students' perceptions of BL courses. The Kruskal-Wallis test and Mann-Whitney U-test were used for data analysis. The student survey results showed that: 1) offering a variety of delivery methods, the BL approach was perceived as more effective and less stressful in comparison to face-to-face courses; 2) students improved their communications with classmates and teachers; 3) easy to follow course content improved students learning; 4) Moodle learning platform was perceived as user-friendly, and 5) faculty and student technology training and support were called as a critical component of the BL approach. The authors derived that survey results showed no correlation between students' perceptions and their age and gender; however, there were significant differences in opinions on the course enrollment (with the difference in the course duration and the number of online components).

BL Tools and Technologies

Mobile learning

Al-Emran, M., & Shaalan, K. F. (2015). Attitudes towards the use of mobile learning: A case study from the Gulf Region. *International Journal of Interactive Mobile Technologies*, 9(3), 75- 78. doi:10.3991/ijim.v9i3.4596

This survey study was conducted in the UAE and Oman with a goal to investigate students' and faculty's attitudes towards M-learning in terms of country and gender differences. 225 Oman students, 158 UAE students, 24 Oman teachers, and 30 UAE teachers were surveyed by two types of questionnaires-students' and faculty surveys. An independent T-test was used to examine significant differences. The study results indicated that UAE students showed a more positive attitude towards M-learning compared to Oman students, and there were no differences among faculty of both countries. Also, there were no significant differences amongst students' and faculty's attitudes in terms of gender. 99% of the students-research participants had mobile devices. In conclusion, the authors suggested policymakers use their study results to make suitable decisions on M-learning usage in the Arab Gulf region.

Halaweh, M. (2017). Using mobile technology in the classroom: A reflection based on teaching experience in UAE. *TechTrends*, 61(3), 218-222. doi:http://dx.doi.org.ezproxy.hct.ac.ae/10.1007/s11528-017-0184-2

The reflection research method based on personal experience was used to analyze university students' behaviors using smartphones such as iPhone, Samsung, and BlackBerry in Dubai, UAE. The author was using observations and reflections and found two critical issues related to the use of smartphones in the classroom: 1) ways of using phones and policies regulating this usage and 2) technical and ethical concerns associated with phone usage. The research finding pointed the following possible ways of classroom phone usage: a) search and share information; b) use spreadsheets and calculator; c) reading key points of



presentation; d) open PowerPoints; e) answer instructor questions, or f) evaluate and use specific course-related websites. However, the author stressed the importance of announcing the policies regulating phone usage. The social or ethical issues related to the picture taking during class time may arise since Arab Muslim girls might feel uncomfortable in addition to some social differences and problems related to the type and price of the phone used in the classroom. Perhaps, technical issues related to battery life or WiFi connections might make a class disruption. In conclusion, the author suggested university policymakers formulate regulations for mobile phone usage in the classrooms.

Social networking sites

Alzouebi, K., & Isakovic, A. A. (2014). Exploring the learner perspective of social media in higher education in the United Arab Emirates. *Global Education Journal, 2*, 13- 31. Retrieved from <http://search.ebscohost.com.ezproxy.hct.ac.ae/login.aspx?direct=true&db=eue&AN=99240196&site=ehost-live>

The authors surveyed 731 UAE higher education students exploring their perspectives on the usefulness of social media resources in the BL/online environment using a 5-point Likert Scale. Out of 71 respondents who completed 100% of the survey questions, more than 60% were graduate students; 60.6% were females, and 39.4% were males. Facebook, Twitter, WhatsApp, and iPhone technology were discussed in the survey, and iPhone technologies were rated as the highest use, while Facebook was ranked as the lowest. Most of the participants agreed that social media tools are more valued for social interactions; Twitter and WhatsApp were emphasized, especially for communication with the instructor. The authors concluded their study with the findings that there is no significant influence of demographic aspects on students' perceptions of social media usage in the classrooms.

Alkaabi, S. A., Albion, P., & Redmond, P. (2017). Social network misuse in the classroom and its impact on male student motivation in UAE tertiary education. *IAFOR Journal of Education, 5*(SI), 115-131. doi:10.22492/ije.5si.05

This qualitative study was conducted in UAE tertiary institutions and aimed to investigate 83 male students' experiences in public higher education. Thirteen focus groups with English as their second language were conducted within universities adapting the BL approach in their curriculum. The addiction to social networks and their impact on students' motivation was one of the main discussed issues. The study results were divided according to social networking use and its effects. Facebook, Twitter, WhatsApp, YouTube, Instagram, BlackBerry Messenger, WeChat, Skype, Tumblr, Keek, and social games were cited as main networks used for social (entertainment and interactions) and academic (learning and cheating) purposes within the classroom. The participants mentioned that they accessed these social networks due to addiction, boredom, or to annoy the teacher. Students' views included positive impacts of social networking related to accessing news, learning new words, or watching funny videos and adverse effects such as addiction, lower motivation, social isolation, weak academic outcomes, and inadequate time organization. In conclusion, the authors proposed recommendations for better social networking utilization: 1) use of "a three-point remedy" that starts from implementing academic integrity policies, blocking social networks during exams, and then report and punish cheaters and 2) use social networks as educational tools.

BL Resources

Blackboard Learn

Baburajan, P. K., Noushad, S., & Shaikh, A. A. (2019). Users' perceptions and experience in Blackboard learn functionalities. In *2019 Advances in Science and Engineering Technology International Conferences (ASET)* (pp. 1-6). IEEE. doi:10.1109/ICASET.2019.8714473

This research focused on the Higher Colleges of Technology (HCT) teachers' and students' experiences and



perceptions of Blackboard Learn (BBL) functionalities. Surveying 127 Business and Engineering students and 41 faculty members, the authors gathered the research data. The majority of the research participants reported being excellent or good users of BBL with support from the Ed-tech division that offers a wide range of professional development courses. 80.5% of faculty and 35 % of students stated that they prefer a mix of BBL and traditional instructions: 57.8% of business major and 40% of engineering major students preferred this combination. The conventional model provided students with face –to face support, and engineering students required much more help with their courses, while BBL mode offered students from different locations and, with varying family situations, the opportunity to assess their classwork 24/7 from any suitable location. Findings indicated that the "e-textbook" and "Discussion board" functions were underused by both majors' students and made the conclusion that the BL approach was, in general, favored by student and teacher research participants.

Daouk, L., & Aldalaïen, M. (2019). The usage of E-learning instructional technologies in higher education institutions in the United Arab Emirates (UAE). *Turkish Online Journal of Educational Technology-TOJET*, 18(3), 97-109. Retrieved from <https://search-proquest-com.ezproxy.hct.ac.ae/docview/2275071751?accountid=1215>

The authors conducted a qualitative auto-ethnographic study that aimed to find out positive factors that affect the Blackboard Learn adoption among the UAE higher education faculty. The research data was collected from the personal researcher reflections and their interactions with colleagues coded in NVivo. It was confirmed by the study results that aspects of perceived innovations such as 1) resource sharing (accessible and easy); 2) communication (emails with stored students and faculty emails, discussions, announcements); 3) compatibility (with Excel downloading and uploading, MS Word, and PowerPoint, and with exam authoring system - Respondus 4.00); and 4) usability of tools with a high level of complexity measure the success of e-learning system diffusion. However, a low level of trialability and increased complexity were deliberated as negative sides that affect the adoption rate. Emails, interpersonal communications, and training were named as faculty communication channels, and the authors stressed the fact that these channels are required for improvement, and the number of channels has to increase. Social system and time were confirmed as essential variables with the support from early adopters, opinion leaders, and change agents for e-learning system diffusion.

Video content

Ahmed, W. K., & Marzouqi, A. H. A. (2015). Using blended learning for self-learning. *International Journal of Technology Enhanced Learning*, 7(2), 91-98. doi:10.1504/IJTEL.2015.072025

This research discussed the use of a BL approach for UAE undergraduate engineering students' skills enhancing. During the study, the lectures were recorded and delivered using iPad applications and YouTube video software, and students' feedback was used for the data analysis. Based on student survey results and instructors' experience, Educreations and Camatasia Apps were found most useful in terms of voice recording and main features in the Apple store. 69% of the students preferred to study through videos, and 87.5% strongly agreed with having videos of the tutorial problems. 75% of the students preferred their course instructors to make the tutorial videos. Besides, about 63% of students stated that they would add extra material based on their interests. Findings indicated that the iPad Apps features for interactivity are limited, and the use of Apple-iBook Author with embedded widgets on laptops or Mac desktops would enhance the lesson materials.

Online discussions

Awofeso, N., Hassan, M., & Hamidi, S. (2016). Individual and collaborative technology-mediated learning using question & answer online discussion forums—perceptions of Public Health learners in Dubai, UAE. *Open Learning: The Journal of Open, Distance, and e- Learning*, 31(1), 54-63. doi:10.1080/02680513.2015.1120662



This case study focused on the usefulness of discussion forums focusing on perceptions of 25 Master and 8 Bachelor UAE university students. Five different discussions were posted on the Moodle platform and were incorporated into the assessment rubrics and learning activities of the courses. 67% of the Master students and 80% of Bachelor students preferred discussions and group work rather than individual tasks. However, several Master students complained about hiding other posts before submitting their posts, while Bachelor students liked that fact. Both Bachelor and Master students underlined that instructors gave comprehensive feedbacks to everybody's responses that facilitated individual and collaborative learning.

Google Docs

Ishtaiwa, F. F., & Aburezeq, I. M. (2015). The impact of Google Docs on student collaboration: A UAE case study. *Learning, Culture and Social Interaction, 7*, 85- 96. doi:10.1016/j.lcsi.2015.07.004

Using a mixed-methods approach, the authors aimed to discover the collaboration impact of Google Docs and limiting collaboration factors in the UAE. Semi-structured interviews with 14 undergraduate students from different specializations and a questioner completed by 142 registered students were the study instruments. The data was analyzed by employing SPSS. The research results showed that students held favorable views towards and for Google Docs promote: 1) instructor-student interactions; 2) instructional collaboration; 3) student collaboration. The significant challenges that are limiting Google Docs usage were cited as a lack of technological and teamwork skills, plus, preference for other tools and extra time required for Google Docs use. The research authors provided some recommendations to increase the use of Google Docs, such as creating online activities that support and motivate students' collaboration, allow them to comment on each other's work, and teach them this tool's features while monitoring students' progress.

BL Approach: Impact

Aldalalah, O. M. A., Shatat, F., & Ababneh, Z. W. (2019). The impact of blended learning on the development of cognitive and metacognitive thinking skills in the mathematics of the (ECT) students. *Journal of Institutional Research, South East Asia, 17*(1). Retrieved from <http://search.ebscohost.com.ezproxy.hct.ac.ae/login.aspx?direct=true&db=eue&AN=137083554&site=ehost-live>

The purpose of this mixed-methods research study was to measure the impact of BL on the development of metacognitive and cognitive thinking skills of UAE college students. Thirty-one faculty members and 95 undergraduate students enrolled in the Math course (40 of them were assigned to a traditional group while 55 students were placed in the BL group). The Math achievement test with 20 questions was used to recognize how compelling the BL course was. The study found that BL supported students to perform better in metacognitive and cognitive thinking skills, providing enhancement through instructional software. Learners can browse the instructional content at any convenient time for them. BL assessments diminished test frustration and anxiety. The authors suggested BL integration into all Math courses since online communications and flipped learning support students in solving any acquired problem.

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Paper: A Comparative Study of Online Augmented Reality Platforms for Building Educational Experiences

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Keywords: Augmented reality, online platform, education, mobile

INTRODUCTION

Augmented reality (AR) can be defined as a technology that overlays virtual objects (augmentations) into the real world. This technology can be used with mobile devices such as smartphones and tablets. An AR experience can be viewed in a mobile device, if the user downloads the appropriate AR application and use it to display digital content on the real world. WebAR refers to AR experiences that are accessed through a web browser rather than a mobile application. The user does not have to download an application in this case. At the moment, WebAR offers limited features compared to AR. In general, AR technology can be used in many fields such as: games, military, medical, entertainment industry and education. Regarding education, learning can be improved with AR moving from simple learning, to Blended Learning (BL). BL combines the advantages of e-learning with traditional methods of learning that is face-to-face interaction in classrooms (Wu et al., 2013).

By definition, AR provides users the ability to incorporate virtual objects into their real-life environment in real-time. AR uses different ways to achieve this, including marker-based, markerless and location-based solutions. In marker-based AR, the camera of the mobile device, locates a specific 2D image (marker) and displays digital content on top of it, or near it. The content can be a 2D image, a GIF, a 3D model, or a 2D video. The 2D image that is used as marker must have enough contrast so that it can be identified successfully by the camera. Marker-based AR is suggested for those experiences where many different markers with different content are required. Some examples are augmented books for education and augmented flyers for advertising. Museums also use marker-based AR to bolster their physical exhibits with useful digital content.

On the other hand, markerless AR allows the placement of digital 3D content over real world's environment by detecting the surface and without having any previous knowledge of the environment. There is no need for markers in this case since markerless AR recognizes the flat surfaces which are unknown to the application beforehand. Applications that use markerless AR need significant processing power in order to detect surfaces. This technology is also called instant tracking and does not rely on object recognition or images as it tracks features of the physical environment. It uses SLAM (Simultaneous Localization and Mapping) which is capable of understanding the physical reality of a scene. It is required that the surface has a texture for computer vision to recognize it.

Finally, location-based AR uses real-world places in order to show AR content, on the user's device. The user can move outdoor and through his/her mobile device, can see AR content depending on the location. Moving around and rotating the mobile device, will make the AR content change according to user's position and rotation. Thus, digital content is placed in the real world and appears bigger or smaller depending on the distance from the user.

In an AR tool review from 2017 (Herpich et al., 2017), authors analyze the existing frameworks that may allow the development of educational solutions using AR resources, focusing on tools that enable the conception, design and implementation of mobile applications. While the study focuses on both SDKs and web platforms, authors found 7 web platforms and it must be noted that only 3 of them are present in the current study. This shows that the market for AR platforms is changing constantly and many AR platforms are shutting down while others emerge. In an older review of AR tools in 2015 (Amin & Govilkar, 2015), authors focused only in AR SDKs and not on online platforms.

In our previous study (Author et al., 2019), we provided a comparative analysis of the most popular AR content development systems. We focused mainly on SDKs that require programming skills although we



also presented limited information on online platforms for AR development. In this paper, we focus only on online platforms for creating AR experiences. We thoroughly examine these platforms in order to identify distinct characteristics that can be used by educators while building AR experiences. The field of AR is evolving constantly, and new AR platforms are emerging every year, while other platforms are disappearing or shifting their focus. Thus, a frequent review of the available AR platforms is needed, in order for educators to gain knowledge on what AR platforms exist and what are their capabilities.

The paper is structured as follows: In the next section, the use of AR technology in education is described, while in the third section, the methodology used to obtain the AR platforms for building AR experiences is presented. Next, results regarding the characteristics of AR platforms are depicted. Finally, findings from the results section are interpreted in the discussion section, while the conclusions of this study are presented in the final section.

AR IN EDUCATION

New possibilities for teaching and learning provided by AR have been increasingly recognized by educational researchers and the scientific interest in AR technology applied in every educational level is high. Analysis of the scientific literature by Iatsyshyn et al. (2019), show that AR technologies have great potential in many application fields, particularly education. A systematic review of the literature by Akçayır and Akçayır (2017) on the use of AR in educational settings, included 68 research articles and most of the studies reported that AR technology in education leads to “enhancement of learning achievement”, while numerous studies have indicated that AR promotes enhanced learning performance and helps students to understand. It was also found that a major drawback for AR technology is that is “difficult for students to use”.

AR researches in education covers all educational levels. In a research by Masmuzidin and Aziz (2018) regarding the work of AR in early childhood (5-6 years old) in education between 2009-2018, it was found that publications regarding AR in early childhood education increased slowly within the past ten years. Furthermore, findings suggest that the main advantages of AR are to enhance motivation (attention, relevance, confidence, satisfaction, engagement) and increase achievement/performance/understanding.

Sahin and Yilmaz (2020) investigated the effect of AR technology on 100 middle school students’ academic achievement and attitudes towards their science course, in order to determine their attitudes towards AR technology. Results indicate that students in the experimental group were found to have higher levels of achievement and more positive attitudes towards the course than those in the control group, and students were pleased and eager to use AR applications, and wanted to continue using them in the future.

Mumtaz et al. (2017), proposed a framework of using AR in BL environments to enhance students’ learning and 45 students of a high school were selected to test the framework. The findings of the study suggest that AR experiences enhanced the students’ learning and understanding and students’ motivation towards learning. Tzima et al. (2019) studied the use of AR in secondary education from teachers’ point of view. Teachers pointed out the need for continuous training on AR and on the process of creating 3D models.

A study on AR by Osuna et al. (2019) used 264 subject experts working at universities. More than 97% of them, had taught subjects related to Educational Technology or ICT applied to training and they had participated in some research on ICT, virtual training or AR. Findings suggest that there is lack of training and improvement of the teaching staff and lack of conceptual foundation. Authors suggest training for teachers in order to acquire technological knowledge about AR and pedagogical knowledge for incorporating AR into educational practice. Finally, Martin et al. (2018), demonstrate possibilities of implementing Industry 4.0 concept and Internet of Things (IoT) into the education process with AR, in the field of mechatronics, in order to facilitate the involvement of university graduates in the industry. Teaching of technical subjects with the use of AR is considered an advantage facilitating the teacher’s work.

Nowadays, AR can be used in many educational scenarios. Some general uses of AR in education, independent of the educational field are described below:

Grasping Concepts using printed material: Instructors can use printed material in order to add virtual



objects and videos to non-interactive books or flyers using marker-based AR. Concepts that can be very difficult to grasp when explained verbally, can be more easily understood when students experience them visually. Unobservable concepts can be viewed inAR through 3D models, helping students grasp concepts that they usually struggle with and prevent them from misunderstanding the information about these subjects. Similarly, AR in education is beneficial to students who are primarily visual learners. Examples can be augmented books, augmented newspapers, augmented user manuals, augmented flyers or even augmented art. The available material that can be used as augmentation can come from Wikipedia, YouTube or other online resources.

Placing virtual objects on a real surface: Markerless AR places virtual 3D objects in the physical environment depending on the environment's real features rather than identifying markers. This eliminates the need for object tracking systems. Markerless AR experiences are possible due to advancements in cameras, sensors, processors, and algorithms, capable of accurately detecting and mapping the real-world. Thus, an AR application doesn't need prior knowledge of a user's environment to overlay 3D content into a scene and hold it to a fixed point in space. This feature can be used by interior designer students to illustrate how they can decorate an actual space with virtual objects like an appliance or a furniture. Students can also view 3D models in the classroom and place them on a surface, using markerless AR. Additionally, museums can also use markerless AR to bolster their physical exhibits with useful digital content.

Field trip – Tourist Guide: With AR technology, field trips can be enhanced by items and experiences pre-planned by the teacher or students. AR experiences can take place in the off-campus physical location. Exploration activities, enhanced tourist guides and places of interest nearby or on a map can add value to the learning experience. For example, student educational trips to Greece can use AR applications to experience famous landmarks like the Parthenon and view valuable information. Furthermore, AR experiences can display structures as someone living thousands of years ago would see them. These activities can use marker-based AR in order to display content on an interactive map, or markerless AR in order to place a 3D model of a famous landmark on a surface. Furthermore, activities can be triggered by the location of the students, using location-based AR.

Treasure Hunt – Escape Room: These two types of activities/games can use marker-based AR in order to entertain and motivate students about different topics through various types of questions and clues. The Treasure Hunt game can also be played outdoors using location-based AR, and students can seek for clues in an open environment. Both activities/games can engage and entertain students using AR technology and with content that can be educational, historical, thematic or pure fun.

METHODOLOGY

In this section, the methodology applied to find AR platforms is described. In order to locate online AR platforms that don't require coding skills, i.e. toolkits for non-technical users, like teachers and educators, the following online resources were used:

- Google: The search was conducted by using the search phrases "augmented reality online platform", "augmented reality online toolkit", "AR online platform" and "AR online toolkit".
- Websites with catalogues and reviews about AR platforms: Capterra (Capterra, n.d.), G2 (G2, n.d.) and Wikipedia (List of Augmented Reality Software, 2020).

Google Play is the simplest and safest way to download applications on an Android device. Android protects users from inadvertent download and install of unknown applications from sources other than Google Play. Android blocks these installs until the user opts into allowing the installation of applications from other sources, since users cannot be certain if the application has different behavior than advertised. Furthermore, when installing applications from other sources, the user does not have access to information such as total downloads, version history, users' ratings and reviews. Thus, in this study, we excluded the online AR platform Vedils (VEDILS, n.d.) since it is provided as an application APK outside the official Play Store. Moreover, Google Expeditions (Expeditions, 2019) was excluded since it is shutting down its service in end of June 2021. Finally, we excluded Merge EDU (Merge EDU, n.d.) from this study, since AR experiences require a physical cube (Merge Cube), in order for the user to hold digital 3D objects.

RESULTS



In this section online platforms for building AR experiences for non-technical users such as teachers and educators are presented. We divide platforms' characteristics based on general features and AR features. General features are described below, and Table 1 provides information for each online platform:

- **Web authoring platform:** An online web platform designed to assist the user in creating a project and publishing it. It is an essential component in order to build an AR experience. The user has sign-in credentials for accessing the platform.
- **AR Player:** Users can view the AR experience by using the AR Player provided by the platform. The AR Player is a mobile application available for free for major mobile operating systems (Android, iOS). In some cases, there is no need for an AR Player since experiences can be viewed in a browser (WebAR) and this makes them OS independent.
- **Sample content:** Some AR platforms provide demo content to their users. Since AR experiences include mostly 3D objects, many platforms provide available 3D objects. Some platforms also provide sample content and access to AR experiences created by other users.
- **Cost:** An important factor when building an AR experience. Additionally, the ability to try the platform for free before purchasing, is also a significant issue since teachers need to test if the platform suits them before purchasing the service.

It must be noted that all platforms provide project examples for building AR experiences and sufficient help material for users to fully understand the way the platform works. Most platforms are offered online while only one, Jig WorkShop (JigWorkShop, n.d.), is offered through an application in the App Store for iOS.

Table 1

General Features of Online AR Platforms

Platform	Web authoring platform	AR Player	Sample content	Cost
3DBear	In the mobile app. There is a web platform for class management by the instructor	Android/iOS	3D models	30 days trial/ \$119/year
AR-Media	✓	Android/iOS	-	Free with limitations/ full version for 25\$/month
ARTutor	✓	Android/iOS	AR Books	Free
AWE	✓	Browser (WebAR)	-	14 days trial/ \$19/month
BlippBuilder	✓	Android/iOS/Browser	3D models	Trial with unknown duration/ \$500/school/year
CoSpaces Edu	✓	Android/iOS	3D models	30 days trial/ \$74.99/year
CraftAR	✓	Android/iOS/Browser	-	Free with limitations/ unavailable pricing
Jig WorkShop	In the mobile app	iOS (JigSpace)	3D models	Free
Metaverse	✓	Android/iOS	3D models	Free
Onirix Studio	Creative ✓	Android/iOS/Browser	3D models	10 days trial/ 99€/month
UniteAR	✓	Android/iOS/Browser	3D models	15 days trial/ \$23/month
Vidinoti V-Director	✓	Android/iOS	-	Free with limitations/ full version for 49€/month
ViewAR	✓	Android/iOS	3D models	Free with limitations/ price depends on the content
ZapWorks Designer	✓	Android/iOS	-	30 days trial/ 55€/month

Features regarding AR technology are described below, and Table 2 provides information for each online



platform:

- **Augmented images:** The ability to recognize a set of reference images that are physically located in the world and display digital content over them. Basically, this type of recognition is marker-based AR. Using this feature, AR applications can respond to 2D images in the user's environment, such as books, posters or brochures.
- **Geo-location:** This feature returns a location based on information about cell towers and WiFi nodes that the mobile client can detect. This type is called location-based AR. This feature allows the display of virtual content based on users' location. As an example, a 3D model of a building can be displayed in the place of a real building. The experience can be viewed only from that location.
- **Motion tracking:** The ability to use data from the gyroscope and sensors of the mobile device. By using this information, an AR application can render virtual content from the correct perspective. Thus, the virtual content can appear as part of the real world giving a more natural outcome to the users.
- **Augmented Faces:** The ability to detect faces and provide methods to access additional center and face region poses as well as face mesh related data. This feature can be used in order to add content such as hair or hats to a face, like Snapchat does.
- **Environmental understanding:** The ability to understand the real-world environment by detecting feature points, horizontal and vertical surfaces (markerless AR), in order to provide a more natural experience. With this information, AR applications can place virtual objects on flat surfaces like tables or walls.
- **Interactive Buttons/Behavior Manager:** This feature enables the user to connect all the elements that are present in the AR experience. The AR experience is seen as a multimedia application that contains 3D models, videos, images, texts, and audio files. These multimedia elements can be assigned actions and control the whole AR experience. For example, a user can click on a virtual element and watch a video or navigate to another screen. This feature can be used to create educational scenarios through interactive experiences.



Table 2

AR Features of Online AR Platforms

Platform	Augmented images	Geo-location	Motion Tracking	Augmented faces	Environmental understanding	Interactive buttons/behavior manager
3DBear	-	-	√	-	√	-
AR-Media	√	√	√	-	√	√
ARTutor	√	-	√	-	-	-
AWE	√	√	√	√	√	√
BlippBuilder	√	-	√	√	-	√
CoSpaces Edu	-	-	√	-	√	√
CraftAR	√	-	√	-	-	√
Jig WorkShop	-	-	√	-	√	-
Metaverse	√	√	-	-	-	√
Onirix Creative Studio	√	-	√	-	√	-
UniteAR	√	-	√	-	√	√
Vidinoti	√	-	√	-	√	√
V-Director	√	√	√	-	√	√
ViewAR	√	-	√	-	√	√
ZapWorks Designer	√	-	√	-	-	√

DISCUSSION

Online platforms presented in the previous section, can allow teachers and educators to create their own AR experiences without any coding skills necessary. Results indicate that there is a plethora of tools at teachers’ disposal. Furthermore, the number of available platforms is rising as our earlier review (Author et al., 2019) of the platforms showed. Most of the platforms, provide a web authoring tool for the teacher to login and create an AR experience. Only 3DBear (3DBear, n.d.) and Jig WorkShop include this functionality in the mobile app itself. Jig WorkShop provides a web administration panel for the teacher to organize the classroom but not to create the AR experience. AR experiences created with Jig WorkShop can be viewed in another application called JigSpace, only available for iOS. All the other platforms support both major mobile operating systems (Android, iOS) or are available for browsers using WebAR technology.

An important part of an AR experience is 3D models. Designing a 3D model is not considered an easy task. There are many online resources for obtaining 3D models for teachers to use them in AR experiences and most AR platforms provide a 3D model library for them to use. ARTutor (ARTutor, n.d.) allows teachers to use AR books created by others. Regarding cost, only ARTutor, Jig WorkShop and Metaverse (Metaverse Studio, n.d.) from the 14 platforms, are free. AR-Media (AR-media, n.d.), Craft AR (Craftar, n.d.), Vidinoti V-Director (V-Director – Vidinoti, n.d.) and ViewAR (ViewAR, n.d.) provide free versions with limitations regarding their functionality although without a time limit. All the other platforms provide a free trial period ranging from 10 to 30 days. It must be noted that this timeframe is long enough for a teacher to try the platform and purchase its services if needed, since their use is straightforward. Furthermore, all platforms come with complete documentation and tutorial videos.

The ability to detect faces and display digital content on top of them is only supported by AWE and BlippBuilder (Blippar, n.d.) since this feature is not commonly used in AR educational experiences. Location-based AR is supported by AR-Media, AWE (AWE, n.d.), Metaverse and Vidinoti V-Director and teachers can use them to provide AR experiences triggered by their location at outdoor activities. Finally, most platforms including CoSpaces Edu (CoSpaces Edu, 2018), UniteAR (UniteAR, n.d.) and ZapWorks Designer (ZapWorks Designer, n.d.) support adding interaction with behavior manager in the AR experiences while others like Onirix Creative Studio (Creative Studio, n.d.) and 3DBear don’t support this feature.

An important aspect that should be mentioned is the pedagogy of AR experiences. In most cases the use of technology is not sufficient to improve learning outcomes and student motivation. A report from the Organization for Economic Cooperation and Development show, that although the usage of Information and Communication Technology (ICT) in schools is rising, the impact of technology on education delivery



remains sub-optimal, due to various reasons including poor policy design, implementation strategies and understanding of pedagogy (OECD, 2015). As Wang et al. (2018) suggest, partnership between educators and learning designers is needed to incorporate sound pedagogy with innovative technology to develop effective AR experiences. Thus, educators should focus on the pedagogy of the experiences created with AR and provide meaningful activities that will enhance learning outcomes and motivate students.

CONCLUSIONS

AR technology can transform the educational process. Nowadays, there is a plethora of programming SDKs that can assist developers in building AR applications. Teachers are lacking coding skills and can now use online AR platforms to create AR experiences for their students. Most of the online platforms support users by providing supporting material and videos.

All of them provide free trial periods so teachers can try to use them in the educational process. Some of the platforms are completely free such as ARTutor, Metaverse and Jig WorkShop. Teachers can use the findings of this up-to-date study in order to select the appropriate AR platform to create an educational experience for their students according to their particular needs. Since AR supports many different types of activities, AR experiences in many educational fields can be created. Blended Learning regards blending various forms of student-teacher interaction and emphasizes on the application of digital methods to reach this goal. As AR technology continues to develop and becomes easier for teachers to develop content, the students of tomorrow will likely see more AR experiences in the classrooms of the future. AR has the potential to enrich education, enable teachers, and motivate students to participate in activities.

ACKNOWLEDGMENTS

This paper is supported by the Erasmus+ project, iPEAR – Inclusive Peer Learning with Augmented Reality Apps.

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Paper: Investigating the Impact of Communicative Approach for Teaching Speaking Skills to the ESL Learners

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Keywords

Impact, investigate, communicative approach, speaking skills, develop

INTRODUCTION AND REVIEW OF RELATED LITERATURE

Language is considered as means of communication that is used to interact with others. We share our feelings and opinions, to make contact with others and so on. The philosopher Wittgenstein (1961) said that the limits of his language are limits of his own world. All he knows is what he has words for. It revenues that our understanding of this world is set to by way of the limits of our language. So it can be said that language is a part and parcel of our life and it is hard for us to be away from it and to reproduce and inspect it. Paradoxically, it seems as if English language runs like blood through the veins of nations worldwide. To have good communication skills in English is a burning desire for most of the people. Communicative competence in the target language is more demanded now than ever before. The ever-growing need for good communication skills in English has created a huge demand for English teaching around the world, as millions of people today want to improve their command of English or ensure that their children achieve a good command of English. The worldwide demand for English has created an enormous demand for quality language teaching and language teaching materials and resources (Richards, 2006: 05). Speaking is a process of interaction of developing meaning that involves producing, receiving and processing information (Brown, 1994; Burns & Joyee, 1997). Speech is power. Speech is to persuade, to convert, to compel. Language, as well as faculty of speech, was the immediate gift of God (Webster). Speech is the most important aim in language teaching. Speaking skills is one of the most important skills and students must indulge themselves in the habit of speaking English. CLT is a cover term for a number of approaches that developed in the 1970s in critical reaction to audio-lingual teaching methods and their unsatisfactory results. The common goal of CA is communicative competence (Power, 2003). According to Wikipedia, "Communicative language teaching (CLT) is an approach to the teaching of second and foreign language that emphasizes communication or interaction as both the means and the ultimate goal of learning a language". The communicative approach aims at developing communicative competence (Richards & Rodgers, 1986).

The communicative approach is concerned with activities, which create realistic situations for the language work. It is a student-centered approach and students learn language behavior (Hajjaj, 1985). The communicative classrooms make use of authentic materials. The use of authentic materials serves as a chief aid to create an authentic context in which learners can develop their communicative competence. Materials that give learners a feel of using real life language are called authentic materials. The communicative approach in a second language classroom provides learners the opportunity to develop and experience the learning process by active engagement in communicative activities capable of improving their communicative skills (Guo, 2008; Gardner, 2008). Pair work and group work in the language classroom allow learners to have better control over learning activities and participate more in the learning tasks than they would in the traditional classroom (Nunan, 1991). In the communicative approach (CA) teachers provide learners with the opportunity to communicate in the target language, and in real-life situations. The communicative language teaching and learning requires that learners engage in various communicative tasks, rather than focusing on linguistic forms. Linguistic forms inhibit learners from communicating in the target language naturally (Ellis, & Skehan, 2003; Zhao, 2011).

Objectives of the Study

The objectives of present study were as follows:

- To identify ESL students' problems in speaking English.

- To assess the impact of CLT on students to perform better orally.
- To prove the worth of CLT to meliorate speaking skills.
- To discover whether communicative approach is effective way to overcome students' speaking difficulties.
- To assess whether a relationship exists between teachers' attitudes and the effective implementation of the communicative approach.
- To investigate the difficulties faced by the teachers in Bahawalpur to implement Communicative Language Teaching to develop ESL students' speaking skills.

Research Questions of the Study

To achieve the objectives, the researcher tried to answer the following questions:

- 1- What are the problems of ESL students in speaking skills?
- 2- How communicative approach of teaching is effective to overcome students speaking difficulties?
- 3- What is the impact of communicative approach of teaching on ESL students to perform better orally?
- 4- What are teachers' attitudes towards the implementation of communicative approach to develop students' speaking skills?
- 5- What are the difficulties faced by the teachers in adopting communicative language teaching to develop students' speaking skills?

Significance of the Study

This study is important as it investigates the improvement of the ESL students' speaking skills by using communicative language teaching. It may provide English language teachers with a specific language teaching procedures which they can use in their classrooms to enhance learners' oral performance and to encourage their students to maximize their capacity by using English orally. The researcher expects that the findings of the study would help to influence the Ministry of Education to take into account the importance of implementing communicative language teaching in the classrooms and to give teachers an insight into the impact of communicative approach on ESL students' ability to understand English used by native speakers.

POPULATION, SAMPLE AND SAMPLING TECHNIQUE

The study was conducted among all the secondary level students and teachers belonging to Govt. High School, Bahawalpur. The sample of the study consisted of (50) teachers and (150) students who were randomly chosen.

Research Design

The researcher had chosen quantitative research methodology for this research. The design of present research was descriptive in nature. The study was conducted to determine whether the attitudes of English language teachers at secondary level schools at Bahawalpur towards developing ESL learners' speaking skills through Communicative Language Teaching were positive or negative and what were the difficulties in implementing (CLT). These attitudes were measured by a questionnaire that was designed by the researcher after reviewing some relevant questionnaires.

The researcher followed the following steps:

- 1- The researcher first had read about what have been written about communicative approach in books and various references.
- 2- Then researcher had randomly selected the sample and the instruments of the study.
- 3- The researcher had prepared questionnaires for teachers and students.



- 1- 5-The questionnaire was sent to the supervisor to measure its validity, suitability and appropriateness.
- 6- The researcher had made the final draft of the questionnaire after collecting the questionnaire from the supervisor and measured its reliability.
- 7- The questionnaire was delivered directly by hand to the respondents.
- 8- The questionnaire was collected from the respondents after two days.
- 9- The researcher categorized the questionnaire, classified them in tables in order to analyze them.

Research Tools

Following research tools were used as a tool to collect the data from the respondents: questionnaire for teachers and questionnaire for students.

Table 1

Data Analysis of Teachers' Questionnaire
Sections of the Teachers' Questionnaire

Sections	Items
1-Teacher's perception about CLT Approach	1-11
2-Difficulties and challenges in adopting CLT	1-10

Mean Std. deviation and Chi-Value Test for Part 1

#	Statements	Mean	SD	Chi-Value	Df	Sig
1	Teaching should focus on fluency rather than accuracy.	2.18	0.94	14.6	2	0.000
2	The students should be the center of knowledge transmission.	2.74	0.63	57.8	2	0.000
3	The teacher should spend a lot of time on role play/games/ group and pair work instead of explicit teaching structures.	2.22	0.95	20.4	2	0.000
4	The lesson should focus mainly on speaking skills.	1.76	0.93	18.7	2	0.000
5	The teacher should not correct the students' mistakes at all unless they cause communication breakdown.	1.96	0.98	19.4	2	0.000
6	The students should be exposed to authentic materials language and linguistic material all the time.	2.34	0.87	17.0	2	0.000
7	Using target language in classroom as medium always helps in learning.	2.56	0.76	33.7	2	0.000

Mean Std. deviation and Chi Square Test for Part 2

#	Statement	Mean	SD	Chi - Value	Df	Sig
1	Teachers' proficiency in spoken English is not sufficient.	2.14	0.94	13.7	2	0.001
2	Teachers lack techniques that motivate the learners to converse in the class.	2.40	0,80	16.0	2	0.000
3	There are few opportunities for teachers to get CLT training.	2.44	0.81	21.2	2	0.000
4	Teachers have little time to develop materials for Communicative classes.	2.50	0.83	35.5	2	0.000
5	Students lack motivation for developing Communicative competence.	2.84	0.42	63.1	2	0.000
6	Teachers' rob the learners' time of talking.	2.38	0.80	13.7	2	0.001
7	Teachers lack authentic materials.	2.22	0.91	12.0	2	0.002
8	There are no examinations to evaluate the speaking skills.	2.08	0.94	10.7	2	0.005

FINDINGS, CONCLUSIONS, SUGGESTIONS AND RECOMMENDATIONS

Teachers' attitudes towards the Communicative Language Teaching are positive. All the above results support the hypothesis as enough as the greater number of respondents agreed over the interrelated information of these statements which support that teachers encounter difficulties in implementing the Communicative Approach to develop the students' speaking skills at secondary Level.

The use of CLT approach has shown to increase motivation for learning. This study also signifies the possibility of implementing the CLT approach in Pakistan. The respondent teachers showed their willingness



to incorporate communicative activities in classrooms. They have a good understanding of the use of the CLT approach.

The researcher recommends that:

- The students should be taught through CLT as well.
- The old and traditional teaching methods should be avoided.
- The students should be encouraged to share their thoughts in the target language.
- Teachers should use and adopt new and innovative learning strategies in their classes.
- Teachers should motivate their students to participate in the class on equal basis.
- CLT can reveal students' hidden talents regarding speaking skills. It needs to be highly promoted in the teaching and learning process.
- Teachers of English are advised to recognize their roles in light of then communicative approach apply these roles in teaching speaking.
- Teachers of English are advised to encourage students to speak freely and fluently in groups and pairs.

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Paper: A Small-Scale Comparative Study of Blended Learning and Traditional Offline Learning in Higher Music Course

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Keywords

Higher Music Course, comparative research, blended learning, traditional offline learning

INTRODUCTION

Blended learning is changing the teaching form in every corner of the world (Young & Randall, 2014). Through the "mixing" and "synthesis" of other learning methods, this learning method provides the possibility for various factors in the learning process to "appropriately" match together, thus having the advantages and characteristics beyond other single learning methods (Huang Ronghuai, Ma Ding, Zheng Lanqin, & Zhang Haisen, 2009). In other disciplines, blended learning has been widely used and verified (Garrison & Kanuka, 2004; So & Brush, 2008; Sale, 2009; Ates, 2009; Mettiäinen, Sari & Karjalainen, 2012). However, the application of blended learning in music discipline is far lower than that in other disciplines, and its implementation path needs to be further explored, and the specific effect needs to be further verified (Luis, Ponce, de, León, Pilar & Lago, et al, 2014; Crawford & Renée, 2017; Hietanen & Heikki Ruismäki, 2017; Montgomery, Mousavi, Carbonaro, Hayward & Dunn, 2019). Therefore, this study carried out a small-scale comparative study of blended learning and traditional offline learning in higher music course, in order to find the appropriate scheme of blended learning in music discipline.

MAIN SITUATION OF THE COURSE

The course of small-scale comparative research is music education and teaching method of Beijing City University (60 class hours, 4 credits). This course is a basic compulsory course for music majors. It started in 2011 when the college set up music major. Since 2018, Beijing City University has launched the implementation plan for the construction of blended teaching courses in Beijing City University, and started the construction of blended learning courses. In the autumn semester of 2020 (September 2020-January 2021), blended learning is used in the course of music education and teaching method for the first time.

PARTICIPANTS & METHOD

This study selected 60 Music Majors of Beijing City University in 2018 and 2019 as the research participants, and conducted a small-scale comparative study by using the experimental control method. All participants had informed consent to this study. 37 students of grade 2019 were in the experimental group, using blended learning; 30 students of grade 2018 were in the control group, using traditional offline learning. The two groups of students' pre-test scores were paired, a total of 30 pairs were selected, a total of 60 students as participants. There were no significant differences between the experimental group and the control group in terms of age, achievement level and learning enthusiasm. Two groups of students were taught by the same teacher, using the same teaching materials and teaching the same content.

It used a combination of quantitative and qualitative methods to conduct a comprehensive study of the learning situation (Holland & Campbell, 2005; Sally, Wiggins, Sarah & Forrest, 2004; Soller, 2010). First, the students' micro lessons, body rhythm display, ensemble creation and other achievements were recorded by video recording, and the students' learning process, usual performance and stage performance were collected and recorded. Next, after the end of the course, the instructional materials motivation survey was used to investigate students' learning motivation in the four dimensions of attention, relevance, confidence and satisfaction (Keller, 1983 & 2010; Jorge, Bacca, Silvia, Baldiris, Ramon, & Fabregat et al., 2018; Jamil, Ningrum & Yani, 2019). And then, semi-structured interviews to understand the students' learning experience (Brownlee, Walker, Lennox, Exley, & Pearce, 2009). At last, the questionnaire data were sorted out, the interviews were transcribed and coded, and the students' final scores were combined



to make a comprehensive summary and analysis (Vanderlinde & Braak, 2013).

TEACHING IMPLEMENTATION

The control group used the traditional offline learning, mainly taught by teachers, and students completed course assignments, group tasks, stage assessment and final assessment under the guidance of teachers. The experimental group used blended learning based on flipped classroom, mainly including three parts (Dick, Carey & Carey, 2010; Almasseri & Alhojailan, 2019; Kang & Kim, 2021).

The first part is the construction of teaching resources. Teaching plans, teaching presentations, teaching videos, learning guides, etc. were uploaded to the network platform. Students could log in to the network teaching platform at any time to learn and know their learning situation at any time. The course teacher could also grasp students' learning progress, knowledge mastery, learning activity and so on.

The second part was blended learning based on flipped classroom (Zhang Qiliang & Wang Aichun, 2014; Al-Zahrani, 2015). Teaching content was designed as an organic whole before, during and after class. Before class, students preview the course on the network platform, understand the course content, and find their own points of interest and confusion. According to the characteristics of different chapters, the course teacher guided group discussion and competition, carried out brainstorming, answered questions and solved doubts, and completed in-depth understanding and digestion of knowledge. After class, students went to the platform to review relevant knowledge and complete individual or group assignments, and could freely discuss or discuss topics in the discussion area.

The third part was the evaluation of learning process (Fuente Aragón, Mestre Martí McDonnell, Cavas Martínez, Hontoria Hernández & Suardáz Muro, 2013). It was mainly based on the duration of watching videos, the activity of participating in online and offline discussions, the scores of pre class tests and after class assignments.

FINDINGS

Every submission should begin with an abstract of about 250 words, followed by a set of keywords. The abstract should be a concise statement of the problem, approach and conclusions of the work described. It should clearly state the contribution that the paper makes to the field of blended learning.

Comparison of learning motivation between two groups

The experimental group and the control group were given out questionnaires, a total of 60 questionnaires were issued, 60 questionnaires were returned, the effective questionnaire recovery rate was 100%. The survey results showed that the experimental group with blended learning had better average values in attention, relevance, confidence and satisfaction than the control group with traditional offline learning. It is particularly worth mentioning that the satisfaction of the experimental group is 0.224 higher than that of the control group, which is the biggest difference among the four dimensions. It can be seen that the students in the experimental group quite agree with blended learning. However, at the same time, the difference between the two groups in the dimension of confidence was the smallest, only 0.007. The specific reasons need to be further studied in the future. The specific results are shown in Table 1.

Table 1.

The learning motivation of the control group and the experimental group in the four dimensions of attention, relevance, confidence and satisfaction

Group	Attention	Relevance	Confidence	Satisfaction
Control Group	3.529	3.782	3.295	3.839
Experience Group	3.567	3.926	3.302	4.063

Comparison of learning experience between two groups

There were significant differences in students' learning experience between the two courses. The students in the control group felt positive about the learning process. Although some students felt that the course



was a little boring, the students were generally familiar with and adapted to the traditional offline course teaching mode, so the overall feeling was OK. The students in the experimental group enjoyed their dominant position in the learning process, believing that blended learning improved learning efficiency; group cooperation promoted knowledge consolidation and complementary peer motivation; pre-class learning laid the foundation for deep learning in class.

Comparison of academic performance between the two groups

The results of the comparison between the experimental group and the control group show that the students in the experimental group using blended learning are better than the control group using traditional offline learning in three aspects: stage assessment score, final assessment score and total mark, and the advantages are obvious. However, in the usual score, the control group was slightly higher than the experimental group. The possible reason is that due to the accumulation of long-term learning habits, students are more adapted to the traditional offline learning style. Blended learning brings students fresh feeling, but it also brings challenges. Of course, this also needs further research in the future. See Table 2 below for details:

Table 2.

The academic performance of the control group and the experimental group were compared

Group	Usual score	Stage assessment score	Final assessment score	Total mark
Control Group	85.6	79.1	67.9	75.0
Experience Group	84.2	82.9	83.2	81.2

LIMITATIONS AND FUTURE STUDIES

This study is the first round of blended learning curriculum reform of the course, and some details have been encountered in the process. For example, the landing of network platform was affected by network speed, platform stability, mobile phone model and other factors, which affected students' learning experience to a certain extent. Very few groups relied on each other and preferred leisure over hard work. According to the above situation, the teaching documents and teaching resources can be further improved; courses can be designed to teach students in accordance with their aptitude according to the characteristics of different classes. These will be the direction of further reform in this study.

The experimental design used in this study was a small-scale comparative study with limited external validity. In the future research, the reasons of some data need to be further studied in order to make a more convincing explanation of the research results; at the same time, large sample control experiments can be conducted to further verify the effectiveness of blended learning.

CONCLUSION & DISCUSSION

The main results of this study show that blended learning is superior to traditional offline learning in terms of students' learning motivation, convenience and expansibility of learning process, and academic performance. For students, music majors have more active thinking and high degree of freedom. Blended learning has helped to stimulate students' learning motivation, and well met the convenience and expansibility of students' learning (Victoria López -Pérez, Carmen Pérez - López, Lázaro Rodríguez -Ariza, 2011). It not only facilitated students to use fragmented time to learn anytime and anywhere, but also provided support for students' repeated consolidation. For teachers, more objective and accurate feedback information could be collected in the teaching process, which was conducive to the iterative adjustment of teaching methods and means. This paper is the research result of a year and a half ago, and also a rare in-depth attempt in the field of higher music education. However, it is only the beginning of this study. In the future, instructional design will continue to iterate, and this research will continue. With the deepening of theoretical exploration and practical application of blended learning curriculum design,



blended learning will bring more optimized learning effect for music discipline.

Information technology is developing at an unprecedented speed, promoting the education reform. In the future, blended learning should become an essential part of the education system, effectively integrate the characteristics of traditional teaching and online courses, not only give play to the advantages of intensive and minority, but also expand the breadth, convenience and timely feedback of teaching resources, so as to realize the comprehensive improvement of teaching quality. The application and development of blended learning in music discipline, expanding the use of online teaching platform, communication tools and other technologies and tools, exploring the optimization path to comprehensively improve students' comprehensive ability, and carrying out more breakthrough and innovative reform measures will be the main development trend in the future.

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Paper: ¿Cómo optimizar el uso de estrategias para el aprendizaje de idiomas en ambientes de trabajo asíncrono?

(Optimizing strategies for language learning in asynchronous online contexts)

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Keywords: online learning, estrategias de aprendizaje, ambientes de aprendizaje, trabajo asíncrono

JUSTIFICACIÓN

El aprendizaje en ambientes virtuales o e-learning es uno de los componentes fundamentales del aprendizaje combinado o blended learning. Por tanto, la presentación que tiene por enfoque el aprendizaje en entornos virtuales o LMS abarca elementos esenciales que de una u otra manera están estrechamente relacionados con la educación combinada como lo son la tecnología, la comunicación, nuevos modelos pedagógicos y alternativas educativas.

OBJETIVOS DE LA PRESENTACIÓN

- Proporcionar algunas estrategias para el aprendizaje de idiomas en ambientes de trabajo asíncrono.
- Compartir experiencias de aprendizaje-enseñanza de inglés como lengua extranjera en ambientes virtuales con niños y jóvenes.
- Reflexionar sobre el rol de los estudiantes y los tutores (profesores) en los nuevos escenarios educativos.

CONTENIDO

A lo largo de la sesión se abordarán algunas estrategias a partir de cinco constructos bajo la autorregulación del aprendizaje en ambientes virtuales.

Estrategias para la administración del tiempo, estrategias de tareas, adecuación del ambiente, búsqueda de apoyo y establecimiento de objetivos. (Barnard et al., 2010)

Las estrategias se presentarán a partir de situaciones y experiencias vividas en un colegio virtual con estudiantes de grado sexto en el aprendizaje de idiomas.

Para presentar los contenidos y garantizar el trabajo asíncrono se propone a los estudiantes una secuencia didáctica establecida para cada periodo académico. Esta secuencia está construida bajo el modelo pedagógico del constructivismo e inicia con una pregunta para indagar los conocimientos previos del estudiante y finaliza con una actividad práctica, en la que se pone en acción todo lo aprendido. Cada paso dentro de la secuencia tiene un propósito de aprendizaje y una actividad presentada a los estudiantes como un reto. Esta secuencia está diseñada para permitirle al estudiante organizar y trabajar en las actividades de forma autónoma, es decir que es una secuencia flexible, y adaptada a los diferentes estilos y ritmos de aprendizaje, sin embargo, es necesario apoyar este trabajo con el uso de las siguientes estrategias para alcanzar las competencias propuestas en el periodo: Manejar un cronograma. Para esta tarea los estudiantes utilizan una de las tres herramientas de acuerdo con sus preferencias. 1. Una agenda personal en la que registran actividades semanalmente, 2. Un tablero acrílico o un tablero construido por el estudiante con materiales de su entorno. 3. Las aplicaciones de Google drive y calendario desde el correo institucional para quienes les gusta el uso de herramientas tecnológicas. Para realizar un seguimiento al uso de la herramienta utilizada por el estudiante se solicita compartir los cronogramas a través del correo. Estas experiencias se socializan a través de videos. Los estudiantes que comparten sus experiencias reciben un incentivo para motivarlos en el proceso. Todo el tiempo hay acceso al ambiente de aprendizaje lo que permite que se mantenga un trabajo gradual y constante ajustado a los horarios de cada estudiante.

Por otro lado, en el primer paso de la secuencia hay una rúbrica que resume el trabajo a realizar en el periodo, la rúbrica contiene: Tiempo, pregunta problematizadora, contenidos, criterios de evaluación, estrategias de evaluación, recomendaciones. Además, los estudiantes encuentran en la secuencia didáctica video tutoriales con consejos prácticos sobre el manejo del tiempo y estrategias de tareas.

En el encabezado del pensamiento o asignatura hay un video de introducción en el que el tutor saluda, se presenta y da algunas sugerencias para lograr un excelente desempeño en el periodo escolar. Igualmente,



en esta misma sección se encuentra un formato de portada en inglés, el cual pueden descargar y utilizar para la presentación de sus actividades.

Con relación al desarrollo de una actividad en especial videos, se propone una estructura (plantilla) con los siguientes ítems: Saludo, corta presentación del estudiante que incluye: Nombres, grado. edad, ciudad; objetivo de la actividad, desarrollo, conclusión y despedida. Asimismo, los estudiantes encuentran un video modelo elaborado por un compañero, esto funciona como guía o ejemplo.

Los estudiantes eligen una opción para aplicar lo aprendido durante el periodo de forma creativa a través de una actividad de su autoría. Las actividades invitan al estudiante a compartir parte de su realidad, contexto, experiencias, preferencias, cualidades, talentos, habilidades, actividades familiares, sueños, planes, entre otros. Las opciones son:

- Un juego de mesa, una sopa de letras, crucigrama, una canción, un dramatizado, juego de roles, una corta historia, un diálogo, un poema, un cuento.

-Compartir con un familiar lo aprendido en el periodo. Apoyado de un poster, cartelera o gráfico.

-Compartir experiencias de aprendizaje a través de un audio o video y respondiendo a las siguientes preguntas

¿Qué aprendiste este periodo? ¿Cuáles herramientas usaste para aprender? ¿Qué tipo de actividades realizaste para aprender? ¿Qué fue lo que más te gusto de tu experiencia de aprendizaje en el periodo?

Cada semana se inicia con un mensaje motivacional a través del chat en plataforma. Además, se envía imagen para fechas especiales, cumpleaños de los estudiantes, mención de honor o reconocimiento por desempeño académico, por participación o compromiso. Mensajes relacionados con información institucional, recomendaciones, recordatorios entre otros. Los mensajes se elaboran en inglés y se comparten a través de recursos visuales como imagen, video, avatares. Esto permite que la comunicación sea constante y se incentive el uso del idioma.

A continuación, se presentan los resultados de una entrevista realizada a estudiantes de grado sexto de un colegio virtual dentro del marco de la investigación “Estrategias de autorregulación para el aprendizaje de inglés en ambientes e-learning”:

1. Usar un cronómetro o alarma para el cambio de actividad o trabajo entre asignaturas.
2. Apagar todos los dispositivos en el tiempo establecido de estudio y elegir un lugar adecuado y cómodo para el trabajo escolar de esta manera se fortalecerá la concentración y se evitarán las distracciones.
3. Hacer lectura de las instrucciones varias veces para facilitar la comprensión. Con el fin de motivar al estudiante se hace uso de infografías, videos, presentaciones, imágenes interactivas, subrayado y resaltando palabras claves, usando colores y diferentes tipos de fuentes a través de una secuencia lógica y progresiva para desarrollar la actividad práctica.
4. Tomar apuntes, la mayoría de los estudiantes mantienen el hábito de tomar apuntes en un cuaderno específico para inglés y se apoyan de los siguientes recursos para realizar el registro de apuntes: Resumen, palabras clave, lista de palabras y subrayado de palabras, conceptos e ideas principales.
5. Revisar y verificar la rúbrica de evaluación de la actividad para saber con certeza los criterios utilizados en la valoración de las actividades.
6. Consultar y analizar el material de estudio en plataforma las veces que sea necesario.
7. Elaborar una lista de actividades y llevar un registro de su desarrollo. Algunos estudiantes organizan su lista a partir de la actividad que ellos consideran la más difícil a la más fácil en el orden de la secuencia de aprendizaje.
8. Leer en voz alta las instrucciones y el material en plataforma.
9. Ver los videos o actividades de los compañeros en plataforma porque les da claridad para el desarrollo de sus actividades.
10. Preparar un guion o borrador para los videos. Para esto utilizan Word y diccionarios como Wordreference y Linguee.
11. Practicar la pronunciación con el celular u otros dispositivos de grabación.
12. Verificar las retroalimentaciones realizadas por el tutor (profesor) con respecto al proceso de aprendizaje a través de las diferentes actividades: Lecciones interactivas, cuestionarios en Moodle, foros, videos, juegos interactivos en h5p, lecturas interactivas, podcasts, entrevistas, dramatizados, historietas cómicas, juegos de mesa u otras actividades relacionadas con los intereses de los estudiantes.
13. Participar activamente en los foros para intercambiar y compartir ideas, opiniones, audios, videos,



- imágenes, canciones y herramientas que fortalecen el aprendizaje de idiomas.
14. Repasar la secuencia, regresar en el paso a paso para recordar y prepararse para los exámenes.
 15. Comparar las respuestas de los exámenes con los apuntes y el material en plataforma.
 16. Buscar apoyo en la familia, especialmente el apoyo de la mamá para revisión de tareas antes de enviar y para resolver inquietudes.
 17. Consultar por su cuenta en varias fuentes de información.
 18. Si al consultar, tomar apuntes y buscar apoyo en su familia, se presentan preguntas el estudiante contacta al tutor por chat en plataforma o correo, o si prefiere agenda una orientación.
 19. Ejercitar y promover el aprendizaje de idiomas a través de herramientas como Duolingo, podcasts, YouTube videos entre otros.
 20. Pensar en que, si terminan sus actividades académicas y cumplen con los objetivos planeados para el día como terminar por lo menos tres actividades diarias, tendrán tiempo para jugar, hablar con amigos, hacer actividades de entretenimiento, recibir un premio o incentivo por parte de los padres.

PARTICIPACIÓN DE LA AUDIENCIA

Al finalizar la presentación se dará un espacio con el fin de resolver inquietudes sobre el tema desarrollado.

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(ISBN 978-618-82543-5-0)