Publication Ethics and Malpractice Statements

Find Me

Welcome Dalize van Heerden

Edit Profile | Logout

PROGRAM

WORKSHOP

SUBMIT PAPER

AUDIENCE REGISTRATION

Call for Papers

Paper List

Accepted Papers

Paper Guidelines

Audiences

Objectives & Scope

Deadlines

Registration Rates & Payment

Keynote Speakers

Panels

Workshops

Organizing Committee

Conference Venue

MEB Genelge

Publication Ethics and Malpractice Statements

As a peer-reviewed this conference priorities is to ensure high standards of publishing. Publication ethics and publication malpract statement are an important concern. Therefore, editors, peer-reviewers, and authors should pay great attention to meet the ethica standards. This conference is committed to keeping the integrity of the research papers we publish. The value of academic publis depends on every person involved behaving ethically. Ethical duties and responsibilities are written in the light of the guides made by Committee on Publication Ethics (COPE). Retrieved from http://publicationethics.org/files/Code_of_conduct_for_journal_editors_Mar11.pdf.

This conference's Editor's responsibilities for Publication decisions:

This conference's editor is in charge of determining manuscripts submitted to the journal that will be published without looking at a backgrounds such as race, gender, country, religion. this conference's editor will make a decision based on the manuscript's signi uniqueness, and relevance to the scope of this conference. This conference with the help of its editors takes plagiarism extremely seriously. Our authors are cautioned against this. This conference with the help of its editors will not accept research articles or manuscripts submitted for publication elsewhere.

Confidentiality: This conference's editor and any editorial members have to keep any information related to authors and submitte manuscripts confidential and must not share such information with anyone other than the corresponding author, reviewers, and pu

Disclosure and conflicts of interest| Rejected manuscripts, papers, or articles and their materials submitted to this conference a extremely seriously not allowed to be used by this conference's editor and any editorial members for their own interests and purpc will be archived in the system confidentially.

Reviewers' responsibilities for helping this conference's editorial decisions:

Research articles or manuscripts submitted to this conference are initially reviewed by the editors for general fit with this conferen and scope and for the writing quality. Only those research articles meeting this conference focus and scope will be sent to reviewe double-blind review. Review time is typically 1-2 weeks.

Confidentiality: The function of the peer-reviewing process is to help this conference's editor and its members to make decisions reviewer's professional, scientific, and objective arguments on the reviewed manuscript. All reviewers must treat all manuscripts confidentially and must not discuss about with others without an authorization from this conference's editor. Reviewers must do th processes objectively. Personal reviews and blame to the author of manuscript are extremely seriously not allowed. All reviews mu supported by professional, scientific, and objective arguments.

Detecting plagiarism: another function of the peer-reviewing process is to help this conference's editor and its members to identi work that has not been cited in-text reference and in the reference section. This conference's reviewers have to make sure that th of manuscript being reviewed provide appropriate sources. When this conference's reviewers find the manuscript being reviewed other published manuscript, they must inform this conference's editor as soon as possible as this conference takes plagiarism extr seriously. Our authors are cautioned against this.

Disclosure and conflicts of interest: this conference's reviewers must not use confidential information obtained from reviewing a manuscripts for personal purposes. They must keep all information confidential. This conference's reviewers must NOT review an manuscripts in which they have conflicts of interest due to their relationships with the authors of the reviewed manuscripts. They m inform the editor as soon as possible if they find the case.

Authors' Responsibilities:

Authors who want to submit their manuscripts to this conference must ensure that they pay attention to a variety of responsibilities including: reporting standards, data access and retention, originality and plagiarism, multiple, redundant or concurrent publication, acknowledgement of sources, authorship of the paper, hazards and human or animal subjects, disclosure and conflicts of interest, fundamental errors in published works.

Publication Ethics and Malpractice Statements

Authors who want to submit their manuscripts to this conference must ensure the originality of the manuscripts and all others' worl to be properly cited according to this conference's references format. All authors must ensure that they have cited published works have been used in determining the nature of the submitted work.

Authors who want to submit their manuscripts to this conference must ensure that all people who have made a significant contribu the submitted manuscript are inclusive and acknowledged. The corresponding author should ensure that all co-authors have appr final version of the paper and have agreed to its submission for publication.

Authors who want to submit their manuscripts to this conference must ensure that if the work involves chemicals, human subject approvals, or animals, it must be clearly identified and clarified in the submitted manuscript.

Authors who want to submit their manuscripts to this conference must ensure that they have disclosed any financial or other subst conflict of interest in their submitted manuscript that might be construed to affect the results of their manuscript.

TASET © Copyright 2014. All Rights Reserved

From: postmaster@mg.iet-c.net on behalf of International Educational Technology Conference
To: Van Heerden, Dalize; Kriek, Jeanne
Subject: IETC 2024 Paper Submission is accepted
Date: Thursday, 25 April 2024 14:14:19

You don't often get email from postmaster@mg.iet-c.net. Learn why this is important

International Educational Technology Conference

IETC 2024 Paper Submission is accepted

Dear Colleaugue,

We are pleased to inform you that the Advisory Board of IETC 2024 (International Educational Technology Conference) after peer blind review by 2 reviewers has decided to ACCEPT your paper to be presented at IETC Conference.

Article Title : The Influence Of Video Lessons In An Online Introductory Programming Module: Comparing Passing Students With Those That Fail

Paper Code : 101782

Abstract Evaluation (5 excellent….1 poor) :

Relevant to the themes of the conference	5
Purpose of the abstract is stated clearly	5
Research method is sufficiently described	5
Scientific or scholarly significance of the study is discussed	5
Conclusions are based on the evidence	5

You can download your acceptance letter from our website's accepted papers section:

http://www.iet-c.net/accepted_papers

You can complete your registration process by paying the conference fee.

all accepted papers will be published in Proceding Book with ISSN number which will be prepared by conference organization.

You can check our previous publications here:

http://www.iet-c.net/pubs

Also after registration you will be able to

- get Participation Certificate
- enter to all keynote speeches
- enter presentation sessions
- get lunches throughout the conference
- get conference bag

We would like to thank you for contributing to the success of the conference and we are looking forward to welcoming you at Harvard University Club, Boston, USA, August 23-24, 2024.

Best regards

Prof. Dr. Aytekin ISMAN & Prof. Dr. J. Ana Donaldson
General Coordinators of IETC

ITEC
INTERNATIONAL TEACHER EDUCATION CONFERENCE

www.ite-c.net

IWSC
INTERNATIONAL CONFERENCE ON CONTEMPORARY WOMEN'S STUDIES

www.iws-c.net

ICQH
INTERNATIONAL CONFERENCE ON QUALITY IN HIGHER EDUCATION

www.icqh.net

March 7-8, 2024
Trabzon/TÜRKİYE

INTE
INTERNATIONAL CONFERENCE ON NEW HORIZONS IN EDUCATION

www.int-e.net

IETC
INTERNATIONAL EDUCATIONAL TECHNOLOGY CONFERENCE

www.iet-c.net

ITICAM
INTERNATIONAL TRENDS AND ISSUES IN COMMUNICATION & MEDIA CONFERENCE

www.iticam.net

August 23-24, 2024
Boston/USA

ISTEC
INTERNATIONAL SCIENCE AND TECHNOLOGY CONFERENCE

www.iste-c.net

October 17-28, 2024
Bakü/AZERBAIJAN

PROCEEDINGS BOOK

ISSN-2146-7366

Dear Colleagues,

INTE & ISTEC & IETC & ITEC & ITICAM & IWSC& IQC 2024 Conferences are now well-known international academic events and the number of paper submissions and attendees are increasing every year.

We have lots of participants from 34 different countries. There was great interest in each conference held.

Also, we would like to thank to our distinguished guests, keynote speakers, reviewers for their collaborations and contributions to the success of these conferences. And we would like to thank all of you for coming, presenting, and joining in these academic activities.

Should you have any enquiries regarding conferences, please do not hesitate to contact with us for any additional information you may require.

December 10, 2024

Thank you...

Conference Organizing Committee

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

KEYNOTES

Prof. Dr. Muzaffer Elmas
Rector, Kocaeli Health and Technology University, Turkey
Speech Title: New Developments on Higher Education

Prof. Dr. Douglas Franklin
Ohio University, United States
Speech Title: New Trends in Quality Assurance & Accreditation

Prof. Dr. Ümit Kocabıçak
President - Turkish Higher Education Quality Council (THEQC), Ankara, Türkiye
Speech Title: Accreditation in Higher Education in the World and in Turkey

Prof. Dr. John Hitchcock
WESTAT-1600 Research Boulevard, Rockville, Md 20850
Speech Title: Using Mixed Methods Approaches in Large Scale Studies
Speech Title: Using Al In Research

Prof. Dr. Teresa Franklin
Ohio University, United States
Speech Title: Higher Education Meet GenAI: Helping Educators Improve Learning
Speech Title: AI: Changing the Paradigm of Higher Education and K12

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net,
IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Prof. Dr. Anna CohenMiller
Nord University, Bodø, Norway
Speech Title: "Embracing the 4Cs in gender research: How to remove the illusion of perfection through Compassion, Community, Care, and Collaboration"

Assistant Professor Dr. Federica Incerti
Director of Technology for SoA & Cybersecurity for CVPA
George Mason University, College of Visual & Performing Arts
Speech Title: Unbridled GenAI in Higher Education

Prof. Dr. Nilgün Sazak
Sakarya University, State Conservatory
Speech Title: Women and Music

Prof. Dr. Badrul h. Khan
Leaders in Open and Distance Education in North America, Washington D.C.USA
Speech Title: Smart Learning In The Digital World

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net,
IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

INTE & ISTEC & IETC & ITEC & ITICAM &IWSC & IQC 2024 CONFERENCES

Organizing Committee

General Coordinators

- Prof. Dr. Aytekin İşman, Sakarya University, Turkey
- Prof. Dr. Douglas Franklin, Ohio University, United States
- Prof. Dr. Teresa Franklin, Ohio University, United States
- Prof. Dr. John Hitchcock, Indiana University, United States

Coordinators

- Prof. Dr. Ahmet Adalıer
- Prof. Dr. Fatoş Silman
- Prof. Dr. Carlos Francisco De Sousa Reis
- Prof. Dr. Tolgay Karanfiller
- Assoc. Prof. Dr. Mustafa Öztunç
- Assoc. Prof. Dr. Dilan Çiftçi
- Assoc. Prof. Dr. Nesrin Akıncı Çötok
- Assoc. Prof. Dr. Azmiye Yınal
- Assist. Prof. Dr. Ayşegül Nacak

Associate Cordinators

- Dr. Sabriye Topal

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

INTE & ISTEC & IETC & ITEC & ITICAM & IWSC& IQC 2024 Editorial Board		
Prof. Dr. Abdullah KUZU	Anadolu University	Turkey
Prof. Dr. Ahmet ESKİCUMALI	Sakarya University	Turkey
Prof. Dr. Akihiro Yamamura	Akita University	Japan
Prof. Dr. Alejandro Rodriguez Valle	Universidad Veracruzana	Mexico
Prof. Dr. Ana Andrade	Instituto Politécnico de Viseu, CI & DETS, ESSV	Portegual
Prof. Dr. Antoinette J. MUNTJEWERFF	University of Amsterdam	Netherlands
Prof. Dr. António Madureira	Instituto Politécnico de Viseu, CI&DETS, ESSV	
Prof. Dr. Arvind SINGHAL	University of Texas	United States
Prof. Dr. Asaf VAROL	Fırat Univerity	Turkey
Prof. Dr. Aytekin İşman	Sakarya University	Turkey
Prof. Dr. Brent G. WILSON	University of Colorado at Denver	United States
Prof. Dr. Buket AKKOYUNLU	Cankaya University	Turkey
Prof. Dr. Carmencita L. Castolo	Open University System of the Polytechnic University of the Philippines	Phillipines
Prof. Dr. Cengiz Hakan AYDIN	Anadolu University	Turkey
Prof. Dr. Chih-Kai CHANG	National University of Taiwan	
Prof. Dr. D.P. MISHRA	Indian Institute of Technology Kanpur	India
Prof. Dr. Don M. FLOURNOY	Ohio University	United States
Prof. Dr. Douglas D. BURLEIGH	La Jolla Cove Consulting, San Diego CA 92117, USA	USA
Prof. Dr. Eralp ALTUN	Ege University	Turkey
Prof. Dr. Fahad AlShahrani	Jubal Industrial College	Saudi Arabia
Prof. Dr. Feng-Chiao CHUNG	National Pingtung University	Taiwan
Prof. Dr. Ferhan ODABAŞI	Anadolu University	Turkey
Prof. Dr. Feza ORHAN	Yıldız Technical University	Turkey
Prof. Dr. Finland CHENG	National Pingtung University	Taiwan
Prof. Dr. Francine Shuchat SHAW	New York University	United States
Prof. Dr. Frank S.C. TSENG	National Kaohsiung First University os Science and Technology	Taiwan
Prof. Dr. Gianni Viardo VERCELLI	University of Genova	Italy
Prof. Dr. Gilbert Mbotho MASITSA	Universirty of The Free State	South Africa
Prof. Dr. Giuseppe Visaggio	Università di Bari	Italy
Prof. Dr. Gregory ALEXANDER	University of The Free State	South Africa
Prof. Dr. Gwo-Dong CHEN	National Central University Chung-Li	Taiwan

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Prof. Dr. Gwo-Jen HWANG	National Taiwan University od Science and Technology	Taiwan
Prof. Dr. Han XIBIN	Tsinghua University	China
Prof. Dr. Hao-Chiang LIN	National University of Tainan	Taiwan
Prof. Dr. Hao-Chiang LIN	National University of Tainan	Taiwan
Prof. Dr. Heli RUOKAMO	University of Lapland	Finland
Prof. Dr. Henry H.H. CHEN	National Pingtung University	TAIWAN
Prof. Dr. Hülya ÇALIŞKAN	Istanbul University	Turkey
Prof. Dr. Hüseyin YARATAN	Final International University	TRNC
Prof. Dr. Ing. Giovanni ADORNI	University of Lapland	Finland
Prof. Dr. J. Ana DONALDSON	AECT Former President	United States
Prof. Dr. J. Michael SPECTOR	University of North Texas	United States
Prof. Dr. Jaroslav Vesely	BRNO UNIVERSITY OF TECHNOLOGY	Czech Republic
Prof. Dr. Jerry WILLIS	Manhattanville College	United States
Prof. Dr. Jie-Chi YANG	National Central University	Taiwan
Prof. Dr. João Duarte	Instituto Politécnico de Viseu, CI&DETS, ESSV	Portegual
Prof. Dr. José Gijón Puerta	Faculty of Education, Granada University	Spain
Prof. Dr. Julia Bello	UIUC	United States
Prof. Dr. KAHIT Fatima Zahra	Université Badji Mokhtar Annaba	Algeria
Prof. Dr. Karel RYDL	Pardubice University	Czech Republic
Prof. Dr. Kay A. PERSICHITTE	Elected AECT President	United States
Prof. Dr. Kiyoshi NAKABAYASHI	Chiba Institute of Technology	Japan
Prof. Dr. Kumiko AOKI	The Open University of Japan	Japan
Prof. Dr. Kuo-En CHANG	National Taiwan Normal University	Taiwan
Prof. Dr. Kuo-Hung TSENG	Meiho Institute of Technology	Taiwan
Prof. Dr. Kuo-Robert LAI	Yuan-Ze University	Taiwan
Prof. Dr. Liu MEIFENG	Beijing Normal University	China
Prof. Dr. Luis Dourado	University of Minho	Portugal
Prof. Dr. Marina Stock MCISAAC	Arizona State University	United States
Prof. Dr. MAURIZIO RIJA	Università della Calabria	Italy
Prof. Dr. Mei-Mei CHANG	National Pingtung University	Taiwan
Prof. Dr. Min JOU	National Taiwan Normal University	Taiwan

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net,
IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Prof. Dr. Ming-Puu CHEN	National Taiwan Normal University	Taiwan
Prof. Dr. Mingchang WU	National Yunlin University of Science and Technology	Taiwan
Prof. Dr. Mohamed El Homrani	Faculty of Education, Granada University, Spain	Turkey
Prof. Dr. Mustafa S. DUNDAR	Sakarya University	Turkey
Prof. Dr. Nabi Bux JUMANI	International Islamic University	Pakistan
Prof. Dr. Nian-Shing CHEN	National Sun Yat-Sen University	Taiwan
Prof. Dr. Paolo Di Sia	University of Padova	Italy
Prof. Dr. Pi-Hsia HUNG	National University of Tainan	Taiwan
Prof. Dr. Prof. Dr. Manuel Fernández Cruz	Faculty of Education, Granada University, Spain	Turkey
Prof. Dr. Roger HARTLEY	University of Leeds	United Kingdom
Prof. Dr. Rozhan M. IDRUS	University Sains Malaysia	Malaysia
Prof. Dr. S. Sadi SEFEROĞLU	Hacettepe University	Turkey
Prof. Dr. Saedah SIRAJ	University of Malaya	Malaysia
Prof. Dr. Sandrina Teixeira	ISCAP/IPP	Portugal
Prof. Dr. Servet BAYRAM	Yeditepe University	Turkey
Prof. Dr. Shan-Ju Lin CHANG	National Taiwan University	Taiwan
Prof. Dr. Sharon SMALDINO	Northern Illinois University	United States
Prof. Dr. ShenQuan YU	Beijing Normal University	China
Prof. Dr. Shi-Jer LOU	National Pingtung University	Taiwan
Prof. Dr. Shu-Hsuan CHANG	National Changhua University of Education	Taiwan
Prof. Dr. Shu-Sheng LIAW	China Medical University	Taiwan
Prof. Dr. Stefan AUFENANGER	University of Mainz	Germany
Prof. Dr. Stephen J. H. YANG	National Central University	Taiwan
Prof. Dr. Steve HARMON	Georgia Institute of Technology	United States
Prof. Dr. Sun FUWAN	China Central Radio and TV University	China
Prof. Dr. Sunny S.J. LIN	National Chiao Tung University	Taiwan
Prof. Dr. Teresa FRANKLIN	Ohio University	United States
Prof. Dr. Terry ANDERSON	Athabasca University	Canada
Prof. Dr. Toh Seong CHONG	University of Sains Malaysia	Malaysia
Prof. Dr. Toshio OKAMOTO	University of Electro-Communications	Japan
Prof. Dr. Tzu-Chien LIU	National Central University	Taiwan
Prof. Dr. Xibin HAN	Tsinghua University	China
Prof. Dr. Yavuz AKPINAR	Boğaziçi University	Turkey

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net,
IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Prof. Dr. Yen-Hsyang CHU	National Central University	Taiwan
Prof. Dr. Yuan-Chen LIU	National Taipei University of Education	Taiwan
Prof. Dr. Yuan-Kuang GUU	National Pingtung University	Taiwan
Prof. Dr. Zhao XINGLONG	Beijing Normal University	China
Prof. Dr. A. Aşkım KURT	Anadolu University	Turkey
Assoc. Prof. Dr. Anthony Y. H. LIAO	Asia University	Taiwan
Assoc. Prof. Dr. Betül ÖZKAN	University of Arizona	United States
Assoc. Prof. Dr. Birova Jana	Pegas Journal	Slovakia
Assoc. Prof. Dr. Chen-Chung LIU	National Central University	Taiwan
Assoc. Prof. Dr. Chen-Huei LIAO	National Taichung University	Taiwan
Assoc. Prof. Dr. Cheng-Huang YEN	National Open University	Taiwan
Assoc. Prof. Dr. Ching Hui Alice CHEN	Ming Chuan University	Taiwan
Assoc. Prof. Dr. Ching-Fan CHEN	Tamkang University	Taiwan
Assoc. Prof. Dr. Chiung-Sui CHANG	Tamkang University	Taiwan
Assoc. Prof. Dr. Danguole RUTKAUSKIENE	Kauno Technology University	Lithuania
Assoc. Prof. Dr. David Tawei KU	Tamkang University	Taiwan
Assoc. Prof. Dr. Dawood Al Hamdani	Sohar University	Oman
Assoc. Prof. Dr. Eric MENG	National Pingtung University	Taiwan
Assoc. Prof. Dr. Erkan TEKİNARSLAN	Bolu Abant Izzet Baysal University	Turkey
Assoc. Prof. Dr. Ezendu ARIWA	London Metropolitan University	Turkey
Assoc. Prof. Dr. Hakan TÜZÜN	Hacettepe University	Turkey
Assoc. Prof. Dr. Hsin-Chih LIN	National University of Tainan	Taiwan
Assoc. Prof. Dr. Huey-Ching JIH	National Hsinchu University of Education	Taiwan
Assoc. Prof. Dr. I-Wen HUANG	National University of Tainan	Taiwan
Assoc. Prof. Dr. Ian SANDERS	University of the Witwatersrand	South Africa
Assoc. Prof. Dr. Iman OSTA	Lebanese American University	Lebanon
Assoc. Prof. Dr. İNANÇ IŞIL YILDIRIM	Beykent University	Turkey
Assoc. Prof. Dr. Işıl KABAKÇI	Anadolu University	Turkey
Assoc. Prof. Dr. John I-Tsun CHIANG	National Changhua University of Education	Taiwan
Assoc. Prof. Dr. Ju-Ling SHIH	National University of Tainan	Taiwan
Assoc. Prof. Dr. Kateřina Vitásková	Palacký University, Faculty of Education, Institute of Special Education Studies	Czech Republic
Assoc. Prof. Dr. Kuo-Chang TING	Ming-hsin University of Science and Technology	Taiwan
Assoc. Prof. Dr. Kuo-Liang OU	National Hsinchu University of Education	Taiwan
Assoc. Prof. Dr. Larysa M. MYTSYK	Gogol State University	Ukraine
Assoc. Prof. Dr. Levent Eraslan	Anadolu University	Turkey
Assoc. Prof. Dr. Li YAWAN	The Open Universiy of China	China
Assoc. Prof. Dr. Li-An HO	Tamkang University	Taiwan

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Assoc. Prof. Dr. Mike JOY	University of Warwick	United Kingdom
Assoc. Prof. Dr. Ming-Charng JENG	National Pingtung University	Taiwan
Assoc. Prof. Dr. Murat ATAİZİ	Anadolu University	Turkey
Assoc. Prof. Dr. Norazah Mohd SUKI	University Malaysia Sabah	Malaysia
Assoc. Prof. Dr. Partow IZADI	University of Lapland	Finland
Assoc. Prof. Dr. Ping-Kuen CHEN	National Defense University	Taiwan
Assoc. Prof. Dr. Pramela KRISH	University Kebangsaan Malaysia	Malaysia
Assoc. Prof. Dr. Razvan-Lucian ANDRONIC	Spiru Haret University	Romania
Assoc. Prof. Dr. Selma KOÇ	Cleveland State University	United States
Assoc. Prof. Dr. Tang Keow Ngang Tang	Khon Kaen University	Thailand
Assoc. Prof. Dr. Tulen SANER	Neareast University	Turkey
Assoc. Prof. Dr. Tzu-Hua WANG	National Hsinchu University of Education	Taiwan
Assoc. Prof. Dr. Wellington Didibhuku THWALA	University of Johannesburg	South Africa
Assoc. Prof. Dr. Wu-Yuin HWANG	National Central University	Taiwan
Assoc. Prof. Dr. Ya-Ling WU	National Pingtung University	Taiwan
Assoc. Prof. Dr. Zhi-Feng LIU	National Central University	Taiwan
Assist. Prof. Dr. ALICIA GONZALEZ-PEREZ	UNIVERSIDAD DE EXTREMADURA	Spain
Assist. Prof. Dr. Andreja Istenic STARCIC	University of Primorska	Slovenia
Assist. Prof. Dr. Anita G. WELCH	North Dakota State University	United States
Assist. Prof. Dr. Antonis LIONARAKIS	Helenic Open University	Greece
Assist. Prof. Dr. Cara Williams	Emirates College for Advanced Education	United Arab Emirates
Assist. Prof. Dr. Chiaki IWASAKI	Kansai University	Japan
Assist. Prof. Dr. Chiu-Pin LIN	National Hsinchu University of Education	Taiwan
Assist. Prof. Dr. Chun-Ping WU	Tamkang University	Taiwan
Assist. Prof. Dr. Chun-Yi SHEN	Tamkang University	Taiwan
Assist. Prof. Dr. Chung-Yuan HSU	National Pingtung University	Taiwan
Assist. Prof. Dr. Dararat KHampusaen	KKU	Thailand
Assist. Prof. Dr. Denis Mušić	Faculty of Infromation Technologies	Bosnia and Herzegovina
Assist. Prof. Dr. Fahme DABAJ	EMU	Turkey
Assist. Prof. Dr. Guan-Ze LIAO	National Hsinchu University of Education	Taiwan
Assist. Prof. Dr. Hsiang CHIN-HSIAO	Shih-Chien University	Taiwan
Assist. Prof. Dr. Hsieh PEI-HSUAN	National Cheng Kung University	Taiwan

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Assist. Prof. Dr. Huei-Tse HOU	National Taiwan University of Science and Technology	Taiwan
Assist. Prof. Dr. Jagannath. K DANGE	Kuvempu University	India
Assist. Prof. Dr. K. B. PRAVEENA	University of Mysore	India
Assist. Prof. Dr. Kanvaria Vinod KUMAR	University of Delhi	India
Assist. Prof. Dr. Marko RADOVAN	University of Ljubljana	Slovenia
Assist. Prof. Dr. Mustafa ÖZTUNÇ	Sakarya University	Turkey
Assist. Prof. Dr. Özlem Atalan	Celal Bayar university	Turkey
Assist. Prof. Dr. Pavlina Částková	Palacky University in Olomouc	
Assist. Prof. Dr. Pey-Yan LIOU	National Central University	Taiwan
Assist. Prof. Dr. Phaik Kin. CHEAH	University Tunku Abdul Rahman	Malaysia
Assist. Prof. Dr. Ping-yeh TSAI	Tamkang University	Taiwan
Assist. Prof. Dr. S. ARULCHELVAN	Anna University	India
Assist. Prof. Dr. Shiful ISLAM	University of Dhaka	Bangladesh
Assist. Prof. Dr. Tsung-Yen CHUANG	National University of Tainan	Taiwan
Assist. Prof. Dr. Vahid MOTAMEDI	Tarbiat Moallem University	Iran
Assist. Prof. Dr. WonJoon Chung	Carleton University	
Assist. Prof. Dr. Xiongyi Liu	Cleveland State University	United States
Assist. Prof. Dr. Yu-Ju LAN	National Taiwan Normal University	Taiwan
Assist. Prof. Dr. Zachary Walker	National Institute of Education, Singapore	Singapore
Assist. Prof. Dr. Zerrin AYVAZ REIS	Istanbul University	Turkey
Dr. Ahmad Mohammad AL-SHABATAT	Al-Baha University	Saudi Arabia
Dr. Aijaz Ahmed GUJJAR	Sindh Madressatul Islam University	Pakistan
Dr. Ali AL MAZARI	Alfaisal University	Saudi Arabia
Dr. Anwer Al-Zahrani	Royal Commission for Jubail and Yanbu	Saudi Arabia
Dr. Brendan TANGNEY	Trinity College	Ireland
Dr. Chan Shiau Wei	Universiti Tun Hussein Onn Malaysia	Malaysia
Dr. Chin-Yeh WANG	National Central University	Taiwan
Dr. Chun-Hsiang CHEN	National Central University	Taiwan
Dr. Elnaz ZAHED	University of Waterloo	United Arab Emirates
Dr. Farhan OBISAT	University of Bank. and Finan. Sci	Jordan
Dr. Farrah Dina YUSOP	University of Malaya	Malaysia
Dr. Fawaz AL-QARNI	Memorial University of Newfoundland	Canada
Dr. Han-Chieh CHAO	Natioanal Ilan University	Taiwan
Dr. HJ. Mohd Arif Hj. ISMAIL	National University of Malaysia	Malaysia
Dr. Ira Irawati	Padjadjaran University	Indonesia
Dr. Issham ISMAIL	University of Sains Malaysia	Malaysia
Dr. Jan Kubrický	Department of Technical education and Information technology	Czech Republic
Dr. Jarkko SUHONEN	University of Eastern Finland	Finland

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Dr. Jialin YI	Indiana University at Bloomington	United States
Dr. JordanEa JordanEa	JordanEa	Chile
Dr. Li YING	China Central Radio and TV University	China
Dr. Maha Atallah Salman	Kuwait University	Kuwait
Dr. Marcela Göttlichová	Tomas Bata University in Zlín	Czech Republic
Dr. Milla Sepliana Setyowati	University of Indonesia	
Dr. Muhammad SAFDAR	International Islamic University	Pakistan
Dr. Nadeem SAQLAIN	Memorial University of Newfoundland	Canada
Dr. Norlidah ALIAS	University of Malaya	Malaysia
Dr. Paivi Perkkila	Kokkola University Consortium Chydenius	
Dr. Sheng-Yi WU	National Central University	Taiwan
Dr. SUKUMAR SENTHILKUMAR	Vellore Institute of Technology-University	India
Dr. Tam Shu SIM	University of Malaya	Malaysia
Dr. Tiong GOH	Victoria University of Wellington	Afghanistan
Dr. Tomas Moravec	University of Economics in Prague	
Dr. Velciu Magdalena	National Research Institute for Labour and Social Protection	
Dr. Yazid BEDOUH	BADJI Mokhtar University	Algeria

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Table Of Contents

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net, ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

THE INFLUENCE OF VIDEO LESSONS IN AN ONLINE INTRODUCTORY PROGRAMMING MODULE: COMPARING PASSING STUDENTS WITH THOSE THAT FAIL

Dalize VAN HEERDEN
University of South Africa, Pretoria, South Africa

Jeanne KRIEK
University of South Africa, Pretoria, South Africa

ABSTRACT
Researchers and educators are concerned about student success in tertiary programming courses, a situation that is even more pronounced in open and distance e-learning institutions. The aim of this study was to integrate 60 video lessons and compare passing and failing student in terms of their performance in JavaScript with three broad online learning factors: course clarity, student connectedness, and task relevance. For example, student connectedness includes, accessibility, self-directed learning, communication and active engagement, In the quantitative survey research, a closed-ended questionnaire with 13 questions, was distributed to 534 students, yielding a response rate of 26%. Among the respondents, 76 passed the module, while 63 failed. The cognitive theory of multimedia learning is used as theoretical framework. The findings reveal that students who passed the online introductory programming modules interacted more with the video lectures, indicating a noticeable impact on their learning experience, consistent with previous research.
Keywords: Video lessons, Programming, Online Learning, Learning outcomes, Active Engagement, Self-directed Learning

INTRODUCTION

Research on the poor throughput and high dropout rates in programming courses has been conducted for many years, particularly at the first-year level (Bennedsen & Caspersen, 2019). This has led to the publication of studies on various approaches to teaching, learning, and assessment that may be applied to programming courses (Scherer et al., 2020). However, there are challenges associated with implementing these recommended strategies into practice in the Open Distance e-Learning space (Goosen & van Heerden, 2019).

Video lessons are a supplemental resource that helps struggling students, and they were incorporated into the module under discussion in this study in order to address some of the challenges in an online context (Insorio et al., 2023). Studies indicate that the integration of video classes enhances students' comprehension and involvement, especially in complex disciplines like programming (Timbreza, 2022).

The aim of the module under discussion in this study, Introduction to Interactive Programming, is to equip students with the skills to develop an operational computer-based program using object-oriented programming language. Among the resources available to the students are 60 video lessons that cover both theoretical concepts and practical applications. The initial videos outline the module's content, including learning outcomes, required software, prescribed textbook, assessment criteria and more. Various teaching approaches are employed such as online simulations, multimedia presentations, and discussion forums, to engage students in the learning process. The strategies aim to foster collaboration and interaction among students, even in the virtual learning environment.

Every chapter in the prescribed book has a lesson plan that includes quick tests, open educational resources for further reading, and video lessons that address the theoretical and practical parts of the chapter. The lecturer used Camtasia to create a total of sixty video lessons. Every lesson begins with a video that outlines the specific chapter's goals before going on to talk about some of the chapter's theoretical concepts. Students can see how to write the sample code in the prescribed book by watching the next video. In these videos, the lecturer explains what is being done, where it is being done, and why it is being done while providing a live demonstration of practical principles. The code's structure, operation, and interactions with other software components are all visible to the students. To help students who have hearing impairments, the videos additionally include a speech bubble with text that replicates the spoken words.

Aim of the Study

The study reported on in this paper is aimed at investigating perceptions of video lessons in a programming module presented online by seeking to answer the following research question:

- Do video lessons in an online introductory programming module have an influence when comparing students who pass the module with those who fail?

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

LITERATURE REVIEW

Research has indicated that the appropriate integration of video classes can enhance students' performance, knowledge, self-worth and autonomy (Karaca, 2023). Multimedia learning tools, like video lectures, modules, and other resources, increase the efficiency of online course delivery and facilitate students' access to learning resources whenever they need them (Arranz et al., 2022). Video lectures are crucial for promoting social presence and course satisfaction in online learning environments. Research has demonstrated that integrating video discussion posts into fully online, asynchronous courses improves students' sense of social presence and overall course satisfaction (Xiu & Thompson, 2020). In order to improve learning outcomes in online courses, Ou et al. (2019) stressed the significance of creating video lessons based on instructional design theories. This is particularly relevant to the teaching of programming languages. Research has shown that the integration of peer coaching and video-based lesson study enhances lecturers' understanding of successful teaching strategies and promotes their professional development (Suh et al., 2021).

Including video lessons in online programming courses is also in keeping with how education is changing. Researchers are looking into innovative teaching methods to enhance training across disciplinary boundaries as a result of the shift to fully online models, such as scaffolding, just-in-time instruction, and streaming video content (Larson et al., 2021). According to Reina et al. (2021), video courses can be used as additional learning resources. This is especially helpful for students who struggle to understand ideas related to difficult programming languages. According to Hadijah et al. (2022), learning programming languages requires the ability to solve problems and comprehend concepts, both of which are greatly enhanced by watching instructional YouTube channels.

Videos help improve language abilities by offering simultaneous visual and auditory stimuli, which can help in understanding and applying the syntax and rules of programming languages (Ilesanmi, 2023). Timbreza (2022) emphasized the usefulness of instructional videos for teaching language and culture, videos may successfully communicate subtle details, which are essential for understanding the complexities of programming languages. A comparison of the two shows that students usually choose recorded video lectures over live online ones due to their convenience and flexibility (Aulakh et al., 2022).

Despite their accessibility and adaptability, employing video lessons has disadvantages. Research has shown that one of the main factors affecting the success of video lectures is how motivated students are to study (Islam et al., 2020). A reliance on video-based learning could lead to problems such as students being less engaged and focused. (Pi et.al., 2022). Studies have also indicated that the planning and production of instructional video classes significantly impact students' performance (Rickley & Kemp, 2021). Unprofessionally made videos have been shown to reduce student interest and satisfaction (Kurzweil et al., 2020). The absence of best practices in video design concepts raises the question of whether videos can effectively replace traditional lectures in educational contexts (Yiu et al., 2019).

THEORETICAL FRAMEWORK

The theoretical framework used in this study is the cognitive theory of multimedia learning, developed by Mayer (2014), which is grounded in cognitive processes and the ways in which individuals learn from multimedia presentations. The theory focuses on how the human mind processes information through various modalities (Muller et al., 2008; Plass et al., 2009; Liu et al., 2008).

Firstly, visual and auditory information is processed in different channels. Although there are two different coding systems, that is, verbal and visual, they operate independently yet are interconnected. When information is presented both through text and words or images and narration, multiple cognitive processes are used potentially leading to improved learning outcomes. Secondly, the processing capacity of each channel is limited, allowing only a small part of the information to be processed at a time. However, using both visual and verbal modalities can enhance processing efficiency, although it may lead to overloading the cognitive system. Finally, learning is an active process, involving the construction of mental representations and the integration into existing knowledge structures. Therefore, it is important that when presenting the same content using different modalities (verbal and visual), the elements need to complement each other to foster coherence and reduce cognitive load.

METHODOLOGY

In a case study method, a quantitative survey research design was used (Gable, 1994) to get deeper insights into a specific group of students, namely those enrolled in the introductory programming module at an open and distance learning institution. The participants were students who had registered for a module, Introduction to Interactive Programming, in 2023. A research instrument was distributed to 534 students, yet only 139 students responded. Among these respondents, 76 successfully passed the module, while 63 students did not meet the passing criteria.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

The students enrolled in this module come from diverse backgrounds, comprising individuals employed full-time, part-time, or not all, and representing rural, urban and township areas. Furthermore, they speak eleven different languages. English, the language used for presenting videos and study materials, is often their second, third or even fourth language. Given the high failure rate observed in this module, it becomes imperative to explore the influence of videos on a module introducing them to JavaScript.

The research instrument uses a questionnaire comprising closed-ended questions as a survey tool. The questionnaire is structured into four sections: effectiveness (three questions), visual and verbal communication (three questions), processing time (three questions), and active process (three questions).

Data was collected following the release of the module results to the students. Each student's answer to a particular question was documented, clearly stating whether they were part of the passing or failing group. The average response for each question for the passing and failing groups was determined separately. The performance of both groups was compared directly as a result of the average response to each question. The use of visual representations helps draw attention to any notable variations between the groups.

RESULTS

The students were asked how many of the provided videos they watched. From the feedback, it is apparent that those students who passed the module watched more of the videos.

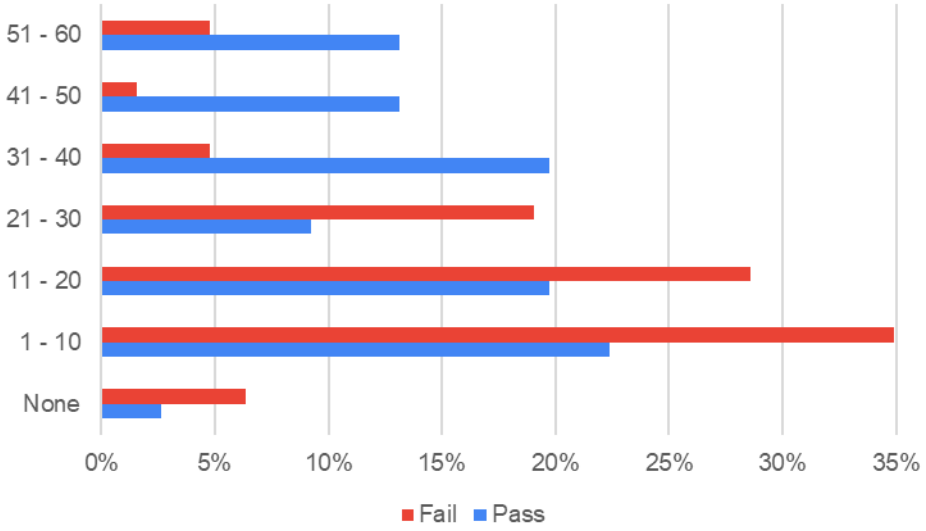

Figure 1: Number of video lessons viewed

Effectiveness

Students who passed had a higher level of confidence in the thoroughness and worth of the video courses than did those who failed. Although both groups' general opinion is favorable, a somewhat smaller proportion of students in the "Fail" group than in the "Pass" group think that the video classes offered a thorough and worthwhile learning experience. This may suggest that the two groups' perceptions or experiences differ in some way.

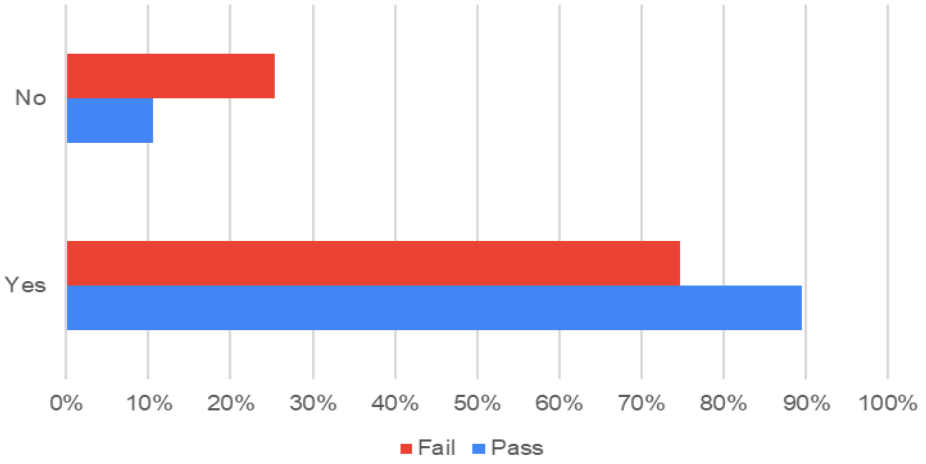

Figure 2: Overall, do you believe that the video lessons provided a comprehensive and valuable learning experience for acquiring JavaScript skills?

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

In comparison to students who failed, those who passed generally thought the video lectures covered a wider range of JavaScript topics more effectively. Although both groups' general opinion is good, there are more neutral comments (37%) in the "Fail" group than in the "Pass" group (22%). This suggests that students who did not pass felt uncertain or conflicted about the value of the video courses.

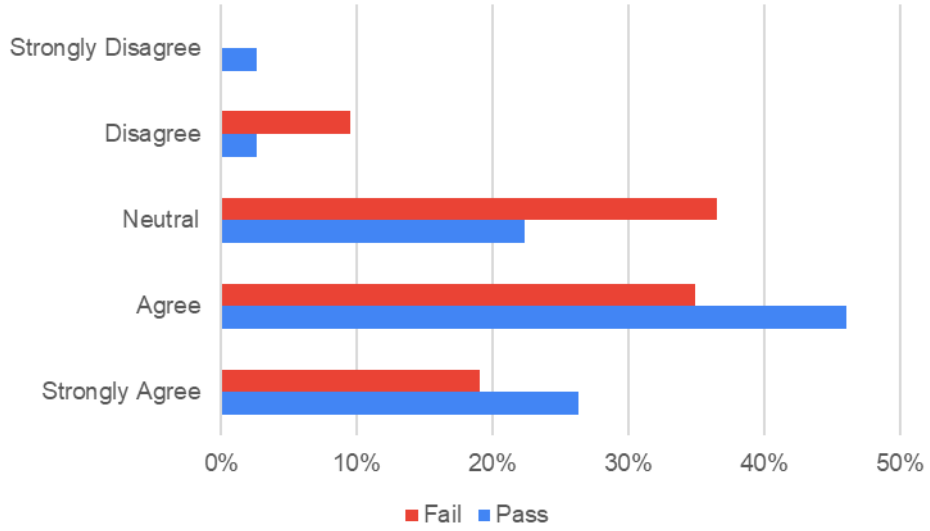

Figure 3: The video lessons effectively covered a wide range of JavaScript topics.

Students who passed had a higher level of confidence than those who failed that the video lectures met expectations. The "Fail" group had a higher number of neutral and negative replies (Disagree and Strongly Disagree) than the "Pass" group, despite the fact that both groups' overall attitude is positive. This shows that students who did not pass had more doubts or discontent about whether the video lectures lived up to their expectations.

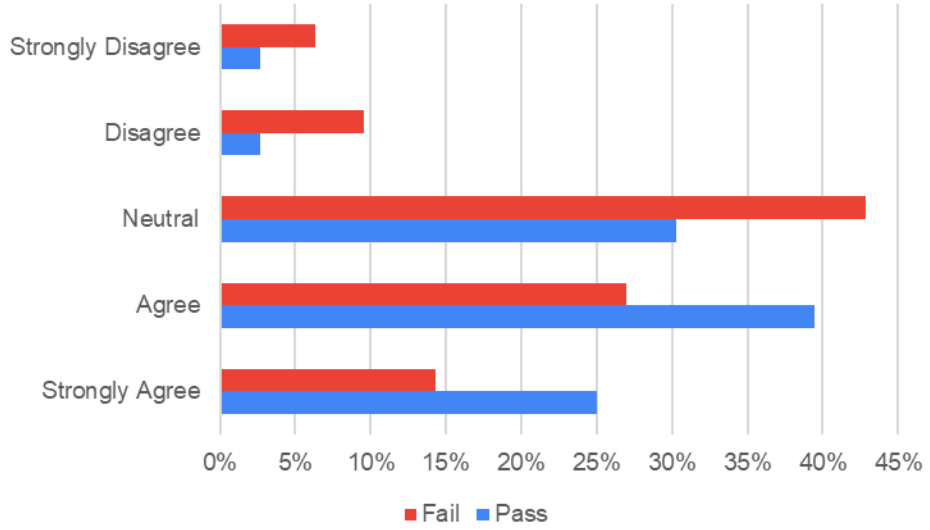

Figure 4: The video lessons met my expectations for effectively learning JavaScript.

Visual and verbal communication

Students who passed believed the instructions were more detailed and clear than those who failed. Although both groups' general opinion is good, a somewhat smaller proportion of students in the "Fail" group than in the "Pass" group think that the instructions were clear and detailed. This can point to certain perception or experience gaps between the two groups.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

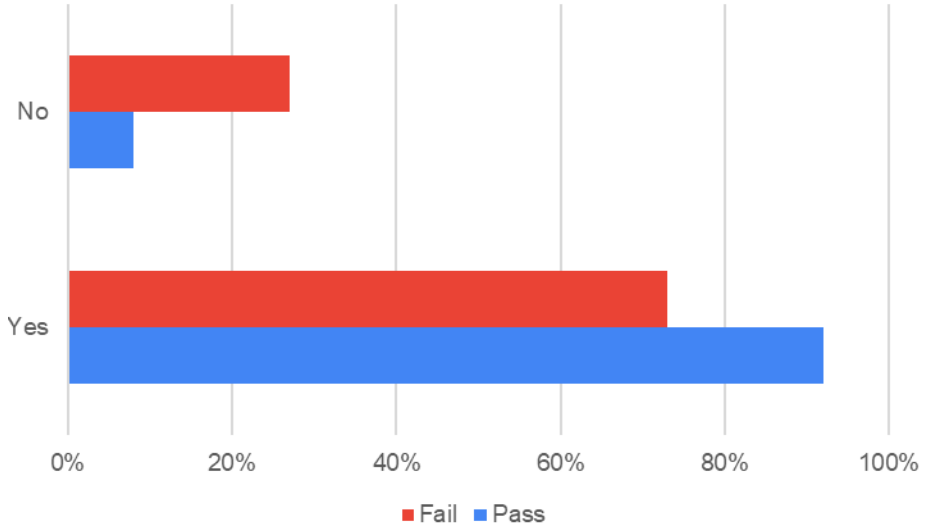

Figure 5: Did the video lessons provide clear and detailed instructions on how to set up the development environment for practicing JavaScript coding?

Students who passed had more confidence in the lessons' organization and simplicity of application than did those who failed. Although both groups' sentiments are generally positive, the "Fail" group had a marginally higher number of neutral comments than the "Pass" group. This implies that students who did not pass had more doubts or conflicting emotions about the organization and simplicity of the teachings.

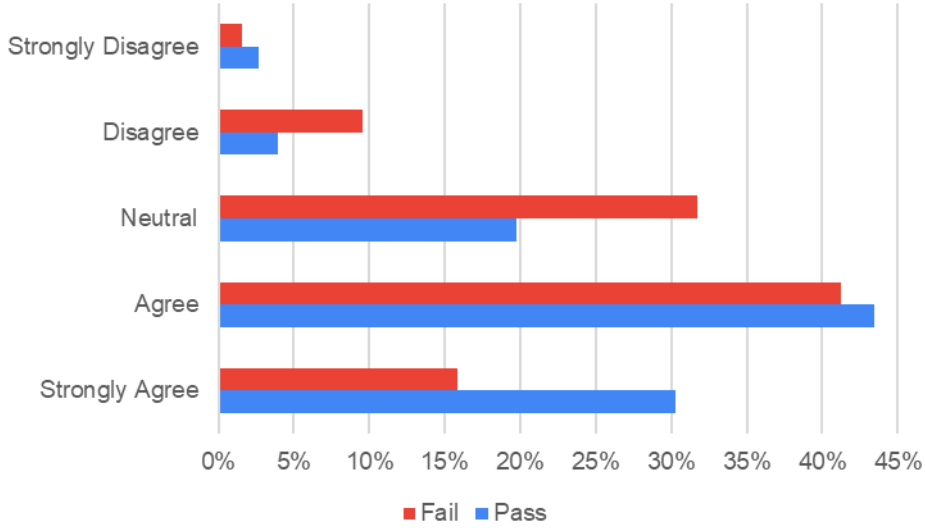

Figure 6: The video lessons were well-structured and easy to follow.

A rather positive attitude on the improvement of communication skills in JavaScript development through the video lectures is indicated by the computed average answer for the "Pass" group. Most of the passing students agreed, or strongly agreed, that they had improved their communication skills. The "Fail" group points to a generally positive attitude, with most failing students claiming some improvement in their communication abilities.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

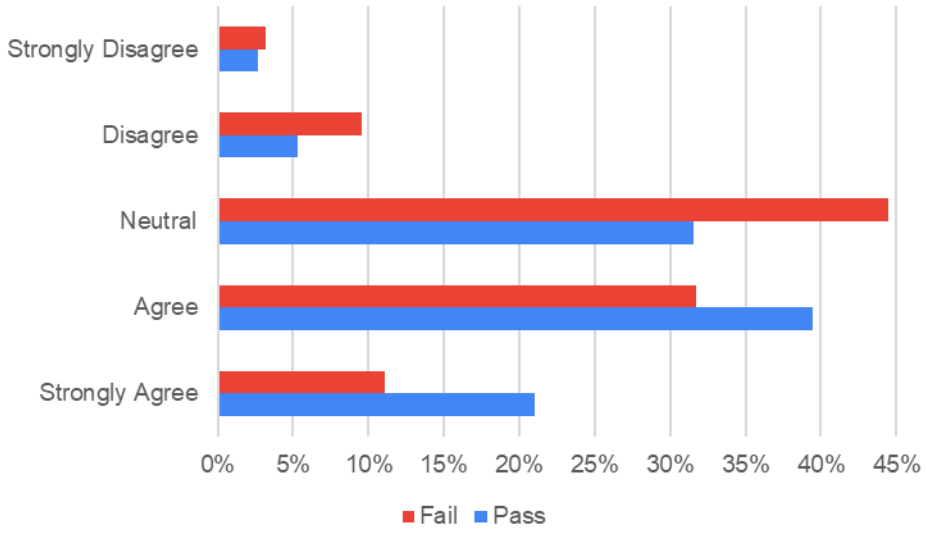

Figure 7: The video lessons enhanced my communication skills in JavaScript development.

Processing time

The "Fail" group had a higher number of neutral and negative replies than the "Pass" group, suggesting more uncertainty or disagreement even though the majority of both groups agree or somewhat agree with that they found it more difficult to focus during recorded sessions. Additionally, compared to the "Pass" group, a larger percentage of respondents in the "Fail" group chose "Disagree" and "Strongly Disagree," indicating that a higher proportion of failing students found it more difficult to focus during recorded sessions.

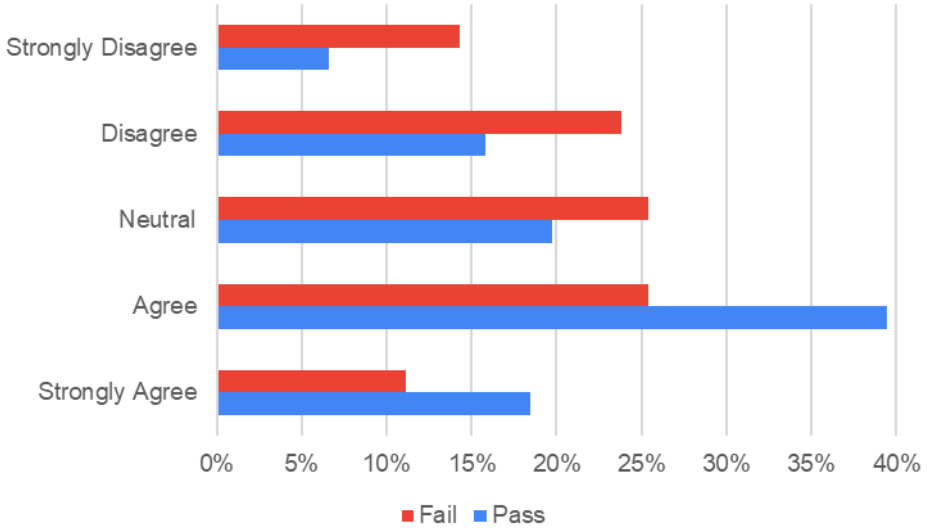

Figure 8: I find it easier to concentrate for long periods when I am watching recorded lessons.

The "Pass" group had a much higher favourable response than the "Fail" group when comparing the averages. This suggests that, in contrast to students who failed, those who passed are more likely to believe that the instructor's pace is suitable for learning JavaScript. Additionally, compared to the "Pass" group, a larger percentage of respondents in the "Fail" group chose "Disagree" and "Strongly Disagree," suggesting that a bigger percentage of students who failed thought the instructor's speed was unsuitable for learning JavaScript.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

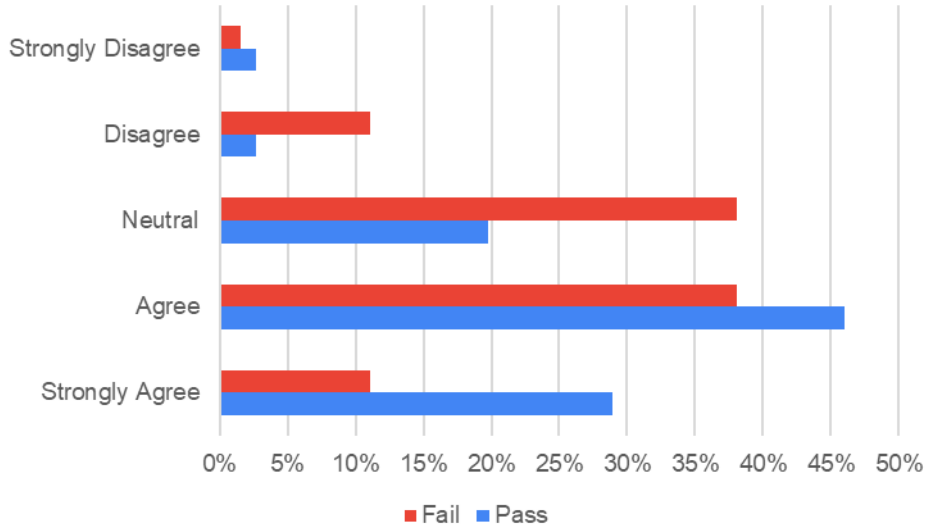

Figure 9: The instructor's pace in the video lessons was appropriate for learning JavaScript.

In comparison to students who failed, those who passed are more likely to recognize that the video lectures are inclusive and accessible for learners with different backgrounds or skill levels. The majority of respondents in both groups agree or partly agree with the statement, but the "Fail" group has a higher proportion of neutral and negative comments than the "Pass" group.

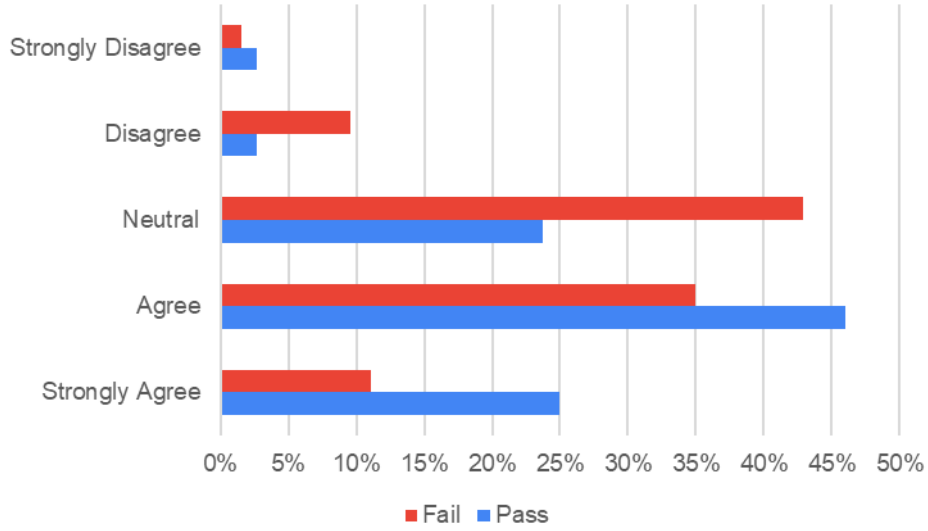

Figure 10: The video lessons were accessible and inclusive for learners with diverse backgrounds or abilities.

Active process

When it comes to the video classes' promotion of active engagement through exercises or practice opportunities, the average response for the "Pass" group reflects a favorable opinion. The majority of respondents in both groups agree or partially agree with the statement, but the "Fail" group had more neutral and negative comments than the "Pass" group, suggesting greater uncertainty or disagreement.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

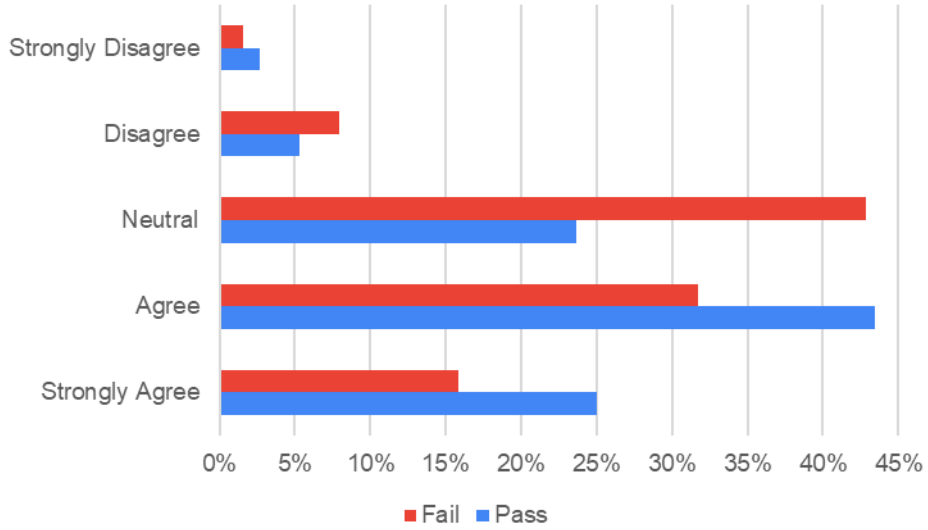

Figure 11: The video lessons encouraged active engagement through exercises or practice opportunities.

Students who succeeded (86%) see more real-world examples or projects in the video courses than those who failed (70%), according to the comparison of the "Pass" and "Fail" groups. The majority of pupils in both groups choose "Yes," although the "Fail" group's proportion is lower. This could mean that even while projects or examples from the real world were given, they weren't necessarily as thorough or useful for students who didn't pass.

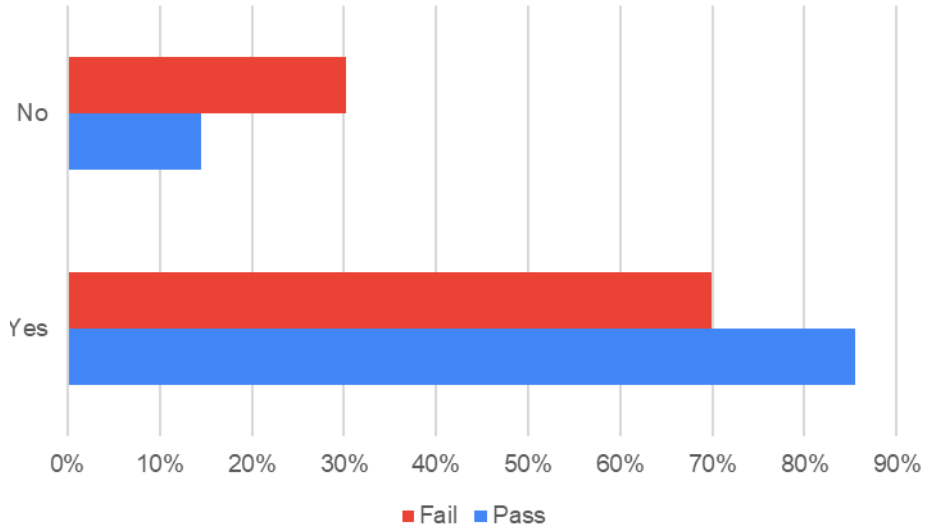

Figure 12: Did the video lessons include real-world examples or projects that helped you apply the JavaScript concepts you learned?

Compared to students who failed, those who passed are more likely to believe that the video lessons promote problem-solving and self-directed learning. While the majority of respondents in both groups agree or partly agree with the statement, there is a greater proportion of neutral and negative responses in the "Fail" group.

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,
ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

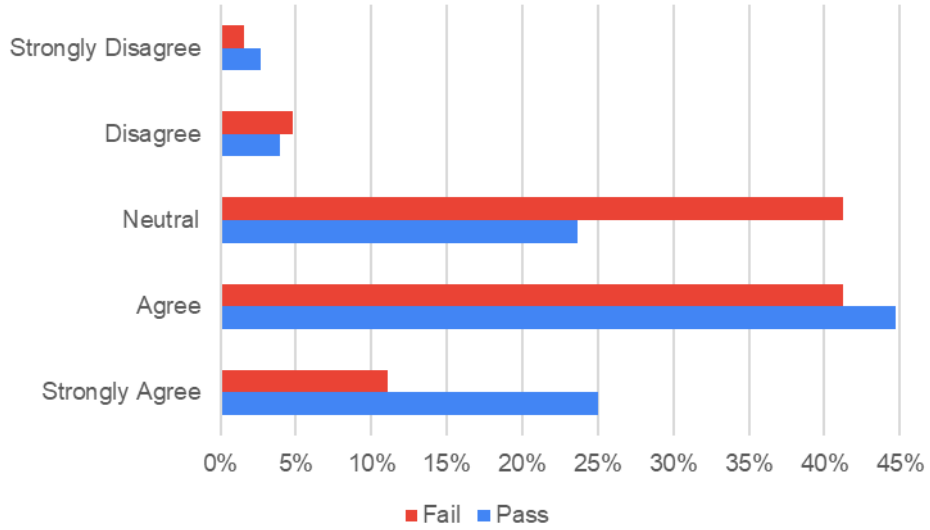

Figure 13: The video lessons encouraged self-directed learning and independent problem-solving.

DISCUSSION

This case study employed a survey research design to explore the influence of video lessons on a specific module within an online environment, using a questionnaire. Notably, passing students tended to watch the videos more frequently compared to failing students.

The impact of video lessons on student performance in JavaScript topics can vary between students who passed and those who failed, with the "Pass" group generally exhibiting a more positive sentiment (Lo & Hew, 2017). However, it's important to interpret these results with caution and take into account other variables that affect student performance, like past knowledge, learning preferences, and outside influences. One aspect of the total learning process is represented by the attitude toward video tutorials. The study by Bellini & Akullian (2007) on video modelling interventions for skill acquisition suggests that such techniques increase skill acquisition and maintenance over time, taking into account the variations in perception between students who passed and those who failed. This shows that the skill acquisition that the video lessons fostered may have benefited passing students more than failing students. Students who passed and those who failed have different opinions about how well the video lessons taught JavaScript; the "Pass" group appears to believe in the lessons' efficacy slightly more. The effectiveness of video lessons in supporting JavaScript learning can be improved by understanding the intricacies of video-based learning and implementing best practices in video creation and delivery (Ou et al., 2019).

The impact of the clarity and detail of video lessons on setting up a development environment for practicing JavaScript coding varied among students who passed and those who failed. The "Pass" group generally had a stronger belief in the clarity and detail of the instructions. This finding is consistent with existing research on the effectiveness of video lessons in improving learning outcomes (Teo et al., 2014). The effectiveness of video lessons as a learning tool has been supported by several studies. Bevilacqua et al. (2019) discovered that, in comparison to other lesson styles, students who favoured video lessons reported increased daily engagement and performed better on quizzes evaluating information retention. This implies that the way in which the video lectures were viewed as effective by students who passed might have been influenced by their format. The effect of video lessons on improving communication abilities in JavaScript programming differed for students passing and failing. The students who passed showed a marginally stronger conviction in the video lessons' effectiveness (Fukkink et al., 2010). Research has indicated that the use of video lessons can improve a variety of abilities, such as peer collaboration, communication, and creativity (Indrawati, 2021).

While Levenberg & Reesh (2023) support the idea that watching recorded lessons can help people concentrate, studies by Lepp et al. (2022) also highlight the importance of acknowledging the diverse experiences and perceptions among students. While students' perception of the instructor's pace in the JavaScript video lessons differed, most agreed that the pace was suitable. It is interesting to note that compared to those who failed the course, those who passed demonstrated a stronger consensus regarding the instructor's pace. Nonetheless, a sizeable fraction of both groups indicated neutrality or disagreement towards the remark, suggesting a range of student experiences and viewpoints (Rhode, 2009). It is crucial to take into account the differences in students' experiences and perspectives when assessing how well video lessons teach JavaScript concepts and applications. There are differences in agreement levels between students who pass and those who fail, despite the fact that video lectures are generally thought of as inclusive and accessible. This highlights the significance of accommodating individual preferences and needs for inclusive and successful learning experiences (Scagnoli et al., 2017).

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

The perception of active engagement through exercises or practice opportunities in video lessons for learning JavaScript programming varies among students who passed and those who failed. Students who passed tend to agree more with the notion that active engagement is encouraged, even if both groups generally agree on this point. It is noteworthy that a considerable proportion of students in both groups either maintain a neutral position or express disagreement with this assertion, suggesting a range of experiences and viewpoints among the students (Freeman et al., 2014). Both the "Pass" and "Fail" groups have reported that video lessons include real-world examples or projects. The two groups' perceptions of these cases, however, were very different from one another. Compared to students who failed the course, a greater proportion of those who passed acknowledged the inclusion of real-world applications (Dym et al., 2005). This implies that even while both groups acknowledged the existence of such examples, the different results might have been influenced by how well these real-world applications worked. Researchers in education have been interested in how well video lessons might help students become more self-directed learners capable of solving problems on their own. While both the passing and failing groups believe that video lessons encourage these skills, the passing group tends to agree more than the failing group (Insorio & Macandog, 2022).

CONCLUSION

It is clear from the survey research design used in this case study that, when comparing students who pass with those who fail, video lectures in an online introductory programming module do, in fact, have a noticeable impact. Students who passed showed a propensity to interact with the video material more often than those who failed. This result is consistent with previous research showing that passing and failing students had different perceptions about how beneficial video tutorials are for learning JavaScript. The former group tends to feel more positively about the effectiveness of these tutorials.

REFERENCES

Aulakh, K., Aneja, P., Saha, S., & Bansal, S. (2022). Comparing the effectiveness of live online lectures vs recorded video lectures as means of learning in medical education during covid 19 lockdowns. International Journal of Current Research and Review, 14(13), 65-70. https://doi.org/10.31782/ijcrr.2022.141311

Arranz, J., Daligdig, A., Abao, S., & Arcilla, F. (2022). Factors affecting pupils' learning in the new normal at saint michael college of caraga. Randwick International of Education and Linguistics Science Journal, 3(4), 685-698. https://doi.org/10.47175/rielsj.v3i4.616

Bellini, S. and Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. Exceptional Children, 73(3), 264-287. https://doi.org/10.1177/001440290707300301

Bennedsen, J. and Caspersen, M. (2019). Failure rates in introductory programming. Acm Inroads, 10(2), 30-36. https://doi.org/10.1145/3324888

Bevilacqua, D., Davidesco, I., Wan, L., Chaloner, K., Rowland, J., Ding, M., Poeppel, D., & Dikker, S. (2019). Brain-to-brain synchrony and learning outcomes vary by student–teacher dynamics: evidence from a real-world classroom electroencephalography study. Journal of Cognitive Neuroscience, 31(3), 401-411. https://doi.org/10.1162/jocn_a_01274

Dym, C., Agogino, A., Eriş, Ö., Frey, D., & Leifer, L. (2005). Engineering design thinking, teaching, and learning. Journal of Engineering Education, 94(1), 103-120. https://doi.org/10.1002/j.2168-9830.2005.tb00832.x

Freeman, S., Eddy, S., McDonough, M., Smith, M., Okoroafor, N., Jordt, H., & Wenderoth, M. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23), 8410-8415. https://doi.org/10.1073/pnas.1319030111

Fukkink, R., Trienekens, N., & Kramer, L. (2010). Video feedback in education and training: putting learning in the picture. Educational Psychology Review, 23(1), 45-63. https://doi.org/10.1007/s10648-010-9144-5

Gable, G. G. (1994). Integrating case study and survey research methods: an example in information systems. European journal of information systems, 3, 112-126. https://doi.org/10.1057/EJIS.1994.12

Goosen, L., & Van Heerden, D. (2019). Student support for information and communication technology modules in open distance environments: towards self-directed learning. In Student Support Toward Self-Directed Learning in Open and Distributed Environments (pp. 26-58). IGI Global.https://doi.org/10.4018/978-1-5225-9316-4.ch002

Hadijah, S., Shalawati, S., Astuti, M., & Hidayati, A. (2022). Designing and developing video as an instructional media in english language teaching setting. Lectura Jurnal Pendidikan, 13(2), 192-205. https://doi.org/10.31849/lectura.v13i2.10185

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Ilesanmi, A. (2023). Teaching and learning with instructional videos: issues and concerns for educational practice. International Journal of Instructional Technology and Educational Studies, 4(1), 1-6. https://doi.org/10.21608/ihites.2022.121271.1110

Indrawati, C. (2021). The effectiveness of archiving videos and online learning on student's learning and innovation skills. International Journal of Instruction, 14(4), 135-154. https://doi.org/10.29333/iji.2021.1449a

Insorio, A. O., & Insorio, J. E. (2023). Messenger lectures and video lessons as mathematics interventions for modular distance learning. International Journal of Professional Development, Learners and Learning, 5(1), ep2306. https://doi.org/10.30935/ijpdll/13008

Insorio, A. and Macandog, D. (2022). Youtube video playlist as mathematics supplementary learning material for blended learning. European Journal of Interactive Multimedia and Education, 3(2), e02212. https://doi.org/10.30935/ejimed/12490

Islam, M., Kim, D., & Kwon, M. (2020). A comparison of two forms of instruction: pre-recorded video lectures vs. live zoom lectures for education in the business management field. Sustainability, 12(19), 8149. https://doi.org/10.3390/su12198149

Karaca, O. (2023). Impact of fully online flipped classroom on academic achievement in undergraduate dental education: an experimental study. European Journal of Dental Education, 28(1), 212-226. https://doi.org/10.1111/eje.12938

Kurzweil, D., Meyer, E., Marcellas, K., & Henry, B. (2020). Evidence-based guidelines for recording slide-based lectures. Medical Science Educator, 30(4), 1611-1616. https://doi.org/10.1007/s40670-020-01032-w

Larson, B., Bohler, J., & Krishnamoorthy, A. (2021). Innovative pedagogical strategies of streaming, just-in-time teaching, and scaffolding: a case study of using videos to add business analytics instruction across a curriculum. Journal of Information Technology Education Innovations in Practice, 20, 001-019. https://doi.org/10.28945/4694

Lepp, M., Luik, P., & Tark, T. (2022). How can web lessons be taught to reduce screen fatigue, motivational, and concentration problems in different disciplines?. Frontiers in Sociology, 7. https://doi.org/10.3389/fsoc.2022.871770

Levenberg, A. and Reesh, S. (2023). Learning from recorded lectures: perceptions of students with adhd. Journal of Attention Disorders, 27(9), 960-972. https://doi.org/10.1177/10870547231171725

Liu, HC., Andre, T. & Greenbowe, T. The Impact of Learner's Prior Knowledge on Their Use of Chemistry Computer Simulations: A Case Study. J Sci Educ Technol 17, 466–482 (2008). https://doi.org/10.1007/s10956-008-9115-5

Lo, C. and Hew, K. (2017). A critical review of flipped classroom challenges in k-12 education: possible solutions and recommendations for future research. Research and Practice in Technology Enhanced Learning, 12(1). https://doi.org/10.1186/s41039-016-0044-2

Mayer, R. E. (2014). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), The Cambridge handbook of multimedia learning (2nd ed., pp. 43–71). Cambridge University Press. https://doi.org/10.1017/CBO9781139547369.005

Muller, D. A., Sharma, M. D., & Reimann, P. (2008). Raising Cognitive Load with Linear Multimedia to Promote Conceptual Change. Science Education, 92(1), 278-296. https://doi.org/10.1002/sce.20244

Ou, C., Joyner, D., & Goel, A. (2019). Designing and developing videos for online learning: a seven-principle model. Online Learning, 23(2). https://doi.org/10.24059/olj.v23i2.1449

Pi, Z., Liu, C., Meng, Q., & Yang, J. (2022). Co-learner presence and praise alters the effects of learner-generated explanation on learning from video lectures. International Journal of Educational Technology in Higher Education, 19(1). https://doi.org/10.1186/s41239-022-00363-5

Plass, J. L., Homer, B. D., & Hayward, E. O. (2009). Design factors for educationally effective animations and simulations. Journal of Computing in Higher Education, 21(1), 31-61. https://doi.org/10.1007/s12528-009-9011-x

Reina, A., García-Ortega, H., Hernández-Ayala, L., Guerrero-Ríos, I., Gracia-Mora, J., & Reina, M. (2021). Cadmio: creating and curating an educational youtube channel with chemistry videos. Journal of Chemical Education, 98(11), 3593-3599. https://doi.org/10.1021/acs.jchemed.1c00794

Rhode, J. (2009). Interaction equivalency in self-paced online learning environments: an exploration of learner preferences. The International Review of Research in Open and Distributed Learning, 10(1). https://doi.org/10.19173/irrodl.v10i1.603

Rickley, M. and Kemp, P. (2021). Effects of video lecture design and production quality on student outcomes: a quasi-experiment exploiting change in online course development principles. The Electronic Journal of E-Learning, 19(3), pp170-185. https://doi.org/10.34190/ejel.19.3.2297

Scagnoli, N., Choo, J., & Tian, J. (2017). Students' insights on the use of video lectures in online classes. British Journal of Educational Technology, 50(1), 399-414. https://doi.org/10.1111/bjet.12572

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net

Scherer, R., Siddiq, F., & Viveros, B. S. (2020). A meta-analysis of teaching and learning computer programming: Effective instructional approaches and conditions. Computers in Human Behavior, 109, https://doi.org/10.1016/j.chb.2020.106349

Suh, J., Gallagher, M., Capen, L., & Birkhead, S. (2021). Enhancing teachers' noticing around mathematics teaching practices through video-based lesson study with peer coaching. International Journal for Lesson and Learning Studies, 10(2), 150-167. https://doi.org/10.1108/ijlls-09-2020-0073

Teo, T., Tan, K., Yan, Y., Teo, Y., & Yeo, L. (2014). How flip teaching supports undergraduate chemistry laboratory learning. Chemistry Education Research and Practice, 15(4), 550-567. https://doi.org/10.1039/c4rp00003j

Timbreza, J. (2022). Teacher-made video lesson: an intervention for online delivery modality in mathematics. International Journal of Research Publications, 106(1). https://doi.org/10.47119/ijrp1001061820223751

Xiu, Y. and Thompson, P. (2020). Effects of video discussion posts on social presence and course satisfaction. The Electronic Journal of E-Learning, 18(5). https://doi.org/10.34190/jel.18.5.007

Yiu, S., Spacek, A., Pageau, P., Woo, M., Lee, A., & Frank, J. (2019). Dissecting the contemporary clerkship: theory-based educational trial of videos versus lectures in medical student education. Aem Education and Training, 4(1), 10-17. https://doi.org/10.1002/aet2.10370

copyright@ ISTEC 2024 www.iste-c.net, INTE 2024 www.int-e.net,IETC 2024 www.iet-c.net,

ITEC 2024 www.ite-c.net, IETC 2024 www.iet-c.net, ITICAM 2024 www.iticam.net, IWSC 2024 www.iws-c.net, IQC 2024 www.icqh.net