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Journal of Educational Thinkers

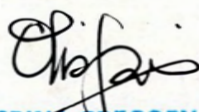
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EDITORIAL PREFACE

Welcome to the Volume 9 of the *Jurnal Pemikir Pendidikan* (Journal of Educational Thinkers, abbreviated as EduThinkers), one of the online open access journals published by Universiti Malaysia Sabah (UMS), Sabah, Malaysia. EduThinkers is a peer-reviewed journal devoted to the publication of original papers and serves as a forum for practical approaches to improving quality in issues pertaining to education and its related fields. Areas relevant to the scope of the journal include: Science Education, Mathematics Education, Teaching English as Second Language, History Education, Geography Education, Economics Education, Educational Management, Educational Psychology, Educational Sociology, Educational Philosophy, Educational Technology, Language Instruction, Curriculum and Instruction, Physical and Health Education, and its related fields.

For the 8th volume of the EduThinkers, we have collected articles reporting on the results of a range of studies carried out by educational researchers from institutions of education throughout Malaysia. We hope you will enjoy reading these articles and that you will find the research findings reported in the articles relevant to your own research interests and educational endeavours. The editorial board members of EduThinkers 8 are indebted to the appointed internal and external reviewers who have contributed their valuable time and effort in reviewing and proofreading the articles that were submitted for publication in EduThinkers 8.

Professor Dr. Lay Yoon Fah

Editor-in-Chief,

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About the Editor-in-Chief



Professor Dr. Lay Yoon Fah is a Professor of Science Education at the Faculty of Psychology and Education (FPE), Universiti Malaysia Sabah (UMS), Kota Kinabalu, Malaysia. He holds a Ph.D in Science Education, M.Sc. in Human Resource Development, and B.A.Ed. (Hons.) in Chemistry and Commerce. He has more than 27 years of working experience, ranging from a secondary school teacher, senior assistant of two secondary schools, lecturer of teacher training college/institute, head of department of educational research and development, a university senior lecturer, and subsequently a professor. Currently, he is a Research Fellow of the Unit for Rural Education Research (URER), FPE, UMS and an Associate of the Centre for Research in International and Comparative Education (CRICE), Universiti Malaya.

He has a wide range of research interests in the field of science education. His primary research interests are in the area of scientific skills, logical thinking abilities, attitude toward science, environmental education, professional development of science teachers, and international studies e.g., TIMSS and PISA. He is active in carrying out research in the field of science education and a frequent paper presenter in conferences and seminars at international and national levels.

He is a prolific book writer. His books on quantitative research methodology and statistical data analysis received overwhelming response from undergraduate and postgraduate students from Public and Private Institutions of Higher Education in Malaysia. He was also frequently being invited as a guest speaker by schools, polytechnics, matriculation colleges, and other government departments/agencies in Malaysia and abroad. He is

currently the Editor-in-Chief of Journal of Educational Thinkers (*Jurnal Pemikir Pendidikan*), UMS; the Associate Editor for the special issues of EURASIA Journal of Mathematics, Science, and Technology Education; the Associate Editor of Asian Education Action Research Journal, Sultan Idris Education University; the Editorial Board Member of International Journal of Educational Methodology, Asia Pacific Journal of Educational Management Research, Madridge Journal of Behavioural and Social Sciences, and Advances in Higher Education. He is also a manuscript reviewer for renowned international journals namely International Journal of Science and Mathematics Education, International Journal of Science Education, Research in Science and Technological Education, Environmental Education Research, The Asia-Pacific Education Researcher, Asia Pacific Journal of Education, EURASIA Journal of Mathematics, Science, and Technology Education, Learning and Individual Differences, International Journal of Bilingual Education and Bilingualism, Journal of Curriculum Studies, Pertanika Journal of Social Sciences and Humanities, Journal of Turkish Science Education, International Journal of Environmental and Science Education International Journal of Environmental and Science Education, among others.

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About the Journal

Jurnal Pemikir Pendidikan (Journal of Educational Thinkers) is a peer-reviewed journal devoted to the publication of original papers, serves as a forum for practical approaches to improving quality in issues pertaining to education and its related fields. Journal of Educational Thinkers aimed to develop as a journal with a focus on emerging issues pertaining to education. The journal is published in English and *Bahasa Melayu* (Malay language) and it is open to authors around the world regardless of their nationality. It is currently published once a year i.e., in December.

Aim and Scope

Journal of Educational Thinkers aims to provide a forum for high quality research related to education. Areas relevant to the scope of the journal include: Science Education, Mathematics Education, Teaching English as Second Language, History Education, Geography Education, Economics Education, Educational Management, Educational Psychology, Educational Sociology, Educational Philosophy, Educational Technology, Language Instruction, Curriculum and Instruction, Physical and Health Education, and its related fields.

Editorial Statement

Journal of Educational Thinkers is the official journal of the Faculty of Psychology and Education, Universiti Malaysia Sabah. The abbreviation for Journal of Educational Thinkers (*Jurnal Pemikir Pendidikan*) is EduThinkers.

Instructions to Authors

1. Style of the Manuscript

Formatting

EduThinkers accepts manuscript of up to 9,000 words, including end notes and references, and reserves the right to return any manuscript that exceeds that length.

All texts must be double-spaced, type size must be at least 12 points with 1-inch margins on all sides, and paper size should be set to 8.5 x 11 inch, even if printed on A4 paper.

Authors should refer to the *Chicago Manual of Style* for general questions on style, grammar, punctuation, format, and for end notes of theoretical, descriptive, or essay-like materials.

Authors should use the latest version of the *Publication Manual of the American Psychological Association* (APA 6th edition) for reference and citation formats. Manuscripts with references and/or citations in another form will be returned to the author(s).

English/Malay Language Editing

EduThinkers emphasizes on the linguistic accuracy of every manuscript published. For articles written in English, the journal uses British spelling and authors may follow the latest edition of the Oxford Advanced Learner's Dictionary for British spellings. For articles written in Malay language, authors may follow the latest edition of *Kamus Dewan Bahasa dan Pustaka*. All authors are required to get their manuscripts adequately edited by professional English/Malay language editors. All possible costs incurred will be borne by the author(s).

2. Submission of the Manuscript

All electronic files (including cover letter, manuscript, declaration and referral form) should be submitted electronically via email to the Editor-in-Chief to be

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Professor Dr. Lay Yoon Fah
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