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VIRTUAL SYMPOSIUM ON TEACHING & LEARNING (VSTL) 2020

Redefining the Practice of Teaching and Learning

E-PROCEEDING

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INTRODUCTION

The very first Virtual Symposium on Teaching and Learning 2020 has been organised by the Academy of Language Studies, UiTM Cawangan Johor Kampus Pasir Gudang in collaboration with Unit Penulisan dan Penerbitan, BPJIA UiTM Cawangan Johor Kampus Pasir Gudang.

This symposium has provided an opportunity for researchers and educators to share their ideas and insights in the name of education. This symposium has also provided a platform for the exchange of knowledge and expertise in relevant fields and promoted exploration of potential collaboration for future research.

This event has the goal to bring academicians and researchers in education together from across the globe.

Researchers and authors have been invited to submit original high-quality extended abstracts. Papers are solicited on, but not limited to:

- a. E-Learning
- b. Innovation and Creativity in Teaching and Learning
- c. Assessment and Evaluation in Teaching and Learning
- d. Best Practices in Teaching and Learning
- e. Others (related to Teaching and Learning)

All accepted extended abstracts have been presented by participants on the symposium day via Google Meet.

All accepted, registered and presented extended abstracts have been published in this e-proceeding with e-ISBN. Authors of selected extended abstracts will be invited after the symposium to submit a full paper for Scopus-indexed Journals/ a special issue in the Insight Journal UiTM Cawangan Johor. Best Papers and Best Presentations have also been awarded in this event.

FOREWORD BY ASSISTANT RECTOR



Dr. Haryana binti Mohd Hairi

Assistant Rector, UiTM Pasir Gudang

Assalamualaikum wbt and good day everyone.

I am pleased to welcome all of you to the Virtual Symposium on Teaching and Learning, VSTL, 2020. Congratulations for your participation, fruitful sharing session and discussion for the symposium.

Today, we have witnessed educators across institutions, disciplines and expertise, coming together to share the insights, experience, and practices in teaching and learning. I bet that everyone has had your fair share of not only getting inputs and ideas from others, but also share your own perspectives in the field of teaching and learning.

Ladies and gentlemen,

VSTL 2020 is one of the many virtual academic get-togethers, which could have been organized in the conventional way, with face-to-face meetings and sessions. However, considering the many aspects in our current situation, with the seemingly unending COVID-19 fiasco, this symposium is successfully done on a virtual platform today without neglecting the ultimate purpose of such programs. I believe that all of us today have gained so many positive inputs for various aspects in teaching and learning even without physically meeting each other, which is no less than if the program is done conventionally.

It is high time that such an event took place to highlight the remarkable contribution, in which “the new norm” of teaching and learning took place in our current education situation. I am proud to know that, through a glance at the list of presentations planned for today, reveals the amazing diversity of these areas. Congratulations to all of you.

COVID-19 pandemic has not only changed our way of teaching and learning, but also forced us to become more creative and innovative. In some cases, we could not meet our students face to face, and had to use virtual methods, as how we met today to carry out our duty as teachers and educators. This can be easy for some of us, but a mounting task for others. However, the responsibility of educating our learners still needs to be carried out, in one way or the other, no matter how challenging it is. Thus, the purpose of this symposium is for us to

not only share the traditional practices but also new methods and techniques in online or distance learning.

I hope that VSTL 2020 has been a good platform to inspire us, the educators to try out new teaching techniques and the experts to share their insight and valuable knowledge in this area. This could also be the route to a unique opportunity to share and exchange with counterparts from different specialties the advancements in your field. I also hope that our meeting will not stop today and can promote exploration of potential collaboration for future research.

Ladies and gentlemen,

On behalf of the committees and UiTM Cawangan Johor, I would like to thank all of you for your support and I hope that you have had fruitful and rewarding exchanges from this program. I would like to also congratulate the Academy of Language Studies, UiTM Cawangan Johor, Kampus Pasir Gudang for organizing the symposium, together with Unit Penulisan dan Penerbitan of BPJIA, UiTM Cawangan Johor Kampus Pasir Gudang. It is my hope to see more programs such as this in the future.

Before I end my speech, I would like to share a quote by Phil Collins;

“In learning you will teach, and in teaching you will learn”. May all of us here never stop learning, and continue inspiring the learners, and each other in our jihad to share and value the knowledge that we have.

I hereby officiate the closing ceremony and announcement of awards of Virtual Symposium on Teaching and Learning 2020.

All the best to everyone, and may all our effort be blessed. Thank you.

Teaching & Learning Visual Aids: PowerPoint and Visibility

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Abstract

Background: Visual aids play an imperative role in lecture delivery today. Visual aids enhance audience engagement and learning experience. The purpose of this study is to provide a better understanding of the illumination setting for Microsoft Office PowerPoint 2011 and its impact on learner's visibility at six-meter viewing distance during a lecture. Methods: The background illumination for Microsoft Office PowerPoint 2011 pre-set at one-quarter (25%), half (50%), three-quarters (75%), and full (100%) transparency levels in the visibility investigation. Visibility was inferred from the reading speed measurement to complete a text projected at six meters. Results: Visibility was affected significantly by different background illumination settings ($p < 0.05$). The best visibility was found in a three-quarters transparency setting. Conclusions: Academicians should be more cautious about their PowerPoint text-background contrast in lecture preparation and delivery to enhance the learning environment.

Introduction

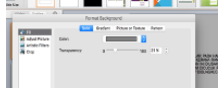
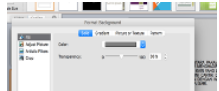
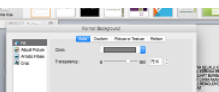
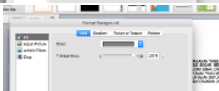
Essential components to effectively deliver a good presentation in teaching and learning are not only limited to appropriate content supported by facts, suitable designs, well-rehearsed lectures delivered with confidence, and minimum mistakes; visibility of the slides is also crucial. There are many types of digital screens used in teaching and learning, such as cathode ray tubes, liquid-crystal-displays, light-emitting diodes, high-definition televisions, and digital projectors. High text-background contrast is essential to enhance visual resolution (Buchner et al., 2009). Ambient lighting conditions have been reported to affect the text-background contrast (Boyce & Wilkins, 2018). When the luminance difference between text and background increases, the visibility becomes better (Legge et al., 1990). However, visual discomfort may occur in high contrast due to the glare factor (Jaiswal et al., 2019). The purpose of this study is to provide a better understanding of the illumination setting for Microsoft Office PowerPoint 2011 and its impact on learner's visibility at six-meter viewing distance during a lecture.

Method

Four texts were constructed by extracting sentences from local Standard Five school textbooks in Malay language. Each text contained the same word count of sixty-three words, employing four to twelve related words per sentence. The font, color, indent, spacing, and size of the four texts were kept consistent. The text color was black. Text alignment was justified. The font size was set at thirteen points. The text content was then transferred into PowerPoint slides. Each slide was constructed with a black circle on a different background (Table 1). Started with the right click on the background, then chose "format background" and adjusted the transparency levels at a quarter (25%), half (50%), three-quarters (75%), and full (100%) respectively. Transparency levels of each background proportionally correlated to text-background contrast levels. One-quarter yielded the lowest text-background luminance contrast; full transparency (100%) yielded the highest text-background luminance contrast. A digital projector was used to project the four slides at six meters from the learners. Calibration of the projector was carried out using an online calibrator (DisplayCal) that provided a rough estimation of the gamma value using a visual matching method.

The sample size was calculated using the formula $[n = (Z/\Delta)^2 * P(1-P)]$. Twenty-two learners were recruited using convenient sampling. Informed consent was obtained before participation. The study was approved by the Research Ethics Committee, Institutional Review Board. The visibility of each text-background luminance contrast was assessed by measuring the reading speed in words per minute (wpm). Four different texts were assigned randomly to minimise learning effect and memorisation.

Table 1
Summary of information in reading materials preparation

Transparency levels	Microsoft Office PowerPoint 2011 setting	Illustrations of reading materials
One-Quarter 25% transparency level		
Half 50% transparency level		
Three-Quarter 75% transparency level		
Full 100% transparency level		

Results

The visibility of PowerPoint as visual aids was inferred from measuring the speed of the learners reading from the text projected on the screen at 6-meter viewing distance. Visibility was affected by the level of transparency setting in Microsoft Office PowerPoint 2011 that was transpired through variation in reading performance at the viewing distance of six meters ($F=2.83$, $p<0.05$). The best visibility was at three-quarter transparency level.

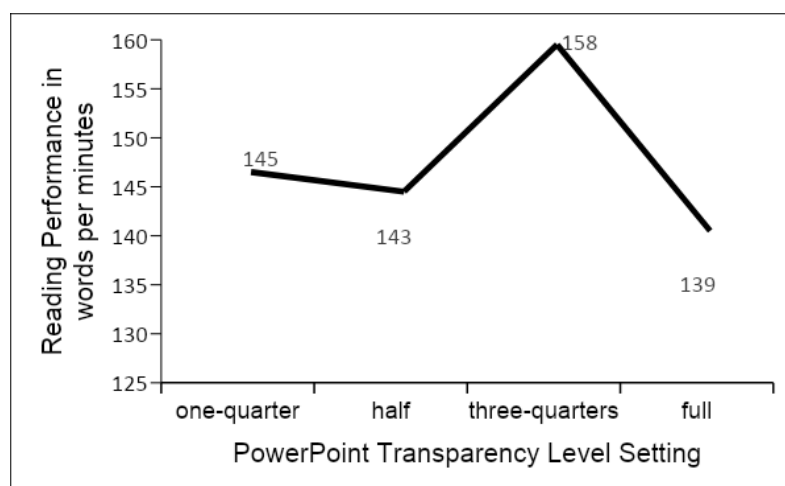


Fig. 1 Reading performance in four different PowerPoint transparency level settings. The number indicates the mean reading speed in words per minute.

Discussion

Reading is a complex task involving various visual and non-visual factors (Akutsu et al., 1991; Laubrock et al., 2006; Lott et al., 2001; Owsley, 2011). Factors that affect reading performance include font size, font type, field size, contrast, eye movement, temporal summation and transient mechanism, central-field loss and cloudiness of the ocular media, visual span, reading distance, and age. Contrast plays a central role in the illumination and visibility effects on reading performance (Legge et al., 1987). At the

maximum contrast, subjects have the fastest reading rates and it declines as the contrast reduces (Legge et al., 1987). The high sensitivity for neural integrity of the temporal contrast sensitivity among maculopathy patients is evident by a stronger association between temporal contrast sensitivity and reading speed (Brussee et al., 2018). Faster readers are less susceptible to environmental factors in comparison to slow readers (Rubin, 2013). The reading rate in normal vision is hardly affected by any large change in photopic luminance (Legge & Rubin, 1986). Transparency setting affects visibility through its link to contrast and illumination.

The elements of the reading process involve the physical, physiological, and psychological of the readers, the reading materials, surroundings, and environment. Reading performance can be evaluated in many ways such as acuity, speed, accuracy, comprehension, endurance, and eye movement during reading (National Research Council, 2002). Reading accuracy is determined by the number of errors (Kiely et al., 2001). Reading comprehension is the interaction of text-based and knowledge-based processes (Shihab, 2011) and can be assessed by asking questions about the content of the text (Burton et al., 2014). Endurance is assessed using longer passages and the test usually takes a longer time (Rubin, 2013). Eye movement assessment for reading can analyse the fixation duration, saccade, regression, and return sweep (Rayner, 1998). Despite having many parameters of reading, our study focuses on the speed of reading as it practically defines the functional vision. Our finding is in agreement with the previous study that reported a reduction of reading speed under low luminance, less number of saccades velocity, and more eye blinks compared to high luminance (Benedetto et al., 2014). Although the reading speed reduces at lower transparency levels in our study, the best reading performance does not occur at the highest transparency level. The reduction of reading speed at the highest transparency level might be due to the glare effect (Yoshimoto et al., 2020). The glare from the background might interfere with the clarity of the text (Wilkins, 2016). The effect of the luminous veil might reduce the contrast perceived in the retinal image (Flynn & Badano, 1999). The average reading speed at distance in this study is slightly less than the reading speed at near (164wpm) reported in the Malaysian population for contextual sentences (Chen et al., 2019).

Conclusion

Best visibility has been revealed in the three-quarter transparency setting of PowerPoint. Appropriate contrast between background and text is vital for visibility and ease of reading during PowerPoint presentations. Contrast differences should not be excessive between text and background that might elicit visual discomfort. Academicians are recommended not to set their PowerPoint text-background transparency levels to the maximum during lecture delivery to minimise the glare effect that can affect visibility and ability to read the projected slides efficiently. Adequate text-background illuminance difference with minimum glare should be incorporated in lecture slides for better ergonomic presentation.

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