

**KESAN INTERAKSI ATRIBUT PERSEMBAHAN MULTIMEDIA,
GAYA KOGNITIF, PERINGKAT PENGAJIAN DAN BIDANG
PENGAJIAN KE ATAS DAYA INGATAN VISUAL PELAJAR
INSTITUSI PENGAJIAN TINGGI**

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Kebenaran Mengguna

Dalam membentangkan tesis ini, bagi memenuhi syarat sepenuhnya untuk ijazah lanjutan Universiti Utara Malaysia, saya bersetuju bahawa Perpustakaan Universiti boleh secara bebas membenarkan sesiapa saja untuk memeriksa. Saya juga bersetuju bahawa penyelia saya atau jika tiada kebenaran mereka, Penolong Naib Canselor, diberi kebenaran untuk membuat salinan tesis ini dalam sebarang bentuk, sama ada keseluruhannya atau sebahagiannya, bagi tujuan kesarjanaan. Adalah dimaklumkan bahawa sebarang penyalinan atau penerbitan atau kegunaan tesis ini sama ada sepenuhnya atau sebahagian daripadanya bagi tujuan keuntungan kewangan, tidak dibenarkan kecuali setelah mendapat kebenaran bertulis. Juga dimaklumkan bahawa pengiktirafan harus diberi kepada saya dan Universiti Utara Malaysia dalam sebarang kegunaan kesarjanaan terhadap sebarang petikan daripada tesis saya.

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Abstrak

Kepelbagaian atribut persembahan multimedia menyumbang kesan positif yang berbeza kepada daya ingatan visual disebabkan faktor seperti bidang pengajian, gaya kognitif dan tahap pengajian yang berlainan. Kesan positif ini tidak dapat dioptimumkan sekiranya kombinasi faktor yang paling berkesan tidak dikenalpasti. Kajian ini bertujuan mengenal pasti kesan utama dan kesan interaksi atribut persembahan multimedia (lukisan garisan, gambar hitam putih, gambar warna, animasi, animasi-audio), gaya kognitif (bergantungan medan, bebas medan), peringkat pengajian (tahun satu, tahun tiga) dan bidang pengajian (asas lukisan, bukan asas lukisan) ke atas daya ingatan kembali visual di kalangan pelajar institusi pengajian tinggi (IPT) Malaysia. Sampel terdiri daripada 400 orang pelajar IPT. Kajian eksperimen ini menggunakan reka bentuk faktorial $5 \times 2 \times 2 \times 2$. Dapatan kajian menunjukkan kesan utama atribut persembahan multimedia, gaya kognitif, peringkat pengajian dan bidang pengajian ke atas daya ingatan kembali visual adalah signifikan. Pelajar yang menonton persembahan animasi memperoleh min skor ingatan kembali visual lebih baik berbanding atribut persembahan yang lain. Pelajar kecenderungan gaya kognitif bergantung medan didapati mengingat kembali visual lebih baik berbanding pelajar gaya kognitif bebas medan, sementara pelajar bidang pengajian bukan asas lukisan mencapai skor daya ingatan visual lebih baik berbanding pelajar bidang pengajian asas lukisan. Pelajar tahun satu pula didapati mempunyai daya ingatan visual lebih baik berbanding pelajar tahun tiga. Kesan interaksi atribut persembahan multimedia dan peringkat pengajian ke atas daya ingatan kembali visual adalah signifikan. Kesan interaksi tiga hala antara gaya kognitif, peringkat pengajian dan bidang pengajian serta interaksi antara atribut persembahan multimedia, peringkat pengajian dan bidang pengajian ke atas daya ingatan kembali visual adalah signifikan. Dapatan kajian ini menyokong keberkesanan persembahan multimedia menguatkan daya ingatan visual. Namun, atribut persembahan multimedia yang paling berkesan perlu sejajar dengan gaya kognitif bidang pengajian dan tahap pengajian pelajar agar hasil pembelajaran yang diinginkan tercapai.

Kata kunci: Atribut persembahan multimedia, Gaya kognitif, Ingatan kembali visual

Abstract

Various multimedia presentation attributes contribute different positive effect on the visual recall memory due to factors such as different cognitive style, field of study and level of study. The positive effects could not be optimised if the most effective combination of the factors is not identified. This study aimed to identify the main effects and interaction effects of multimedia presentation format or attribute (line drawing pictures, black and white pictures, colour pictures, animation, animation-audio), cognitive styles (field dependence (FD), field independence (FI), level of study (year one, year three) and field of study (art-based, non-art-based) on the visual recall among students in higher education institutions (HEIs) in Malaysia. The sample consisted of 400 year one and three university students. This experimental study used 5 x 2 x 2 x 2 factorial design. The findings showed that the main effects of format of multimedia presentation, cognitive style, level of education and field of study on visual recall were significant. The results showed that students who viewed animated presentation obtained better mean scores on visual recall than students who viewed other presentation formats. Students with FI cognitive styles were found to recall better than the FD students, while students from non-art-based field obtained better scores than students from the art-based field. Year one students were found to have better visual recall than year three students. The interaction effect of format of multimedia presentation and level of education on visual recall was significant. The three-way interaction effect between cognitive styles, level of education and field of study as well as the interaction effect between format of multimedia presentation, level of education and field of study on visual recall were significant. Findings of the study support the effectiveness of multimedia presentation in enhancing the visual recall memory. However, the most effective attribute should be aligned with the students' cognitive style, field of study and level of study so as to achieve the intended learning outcomes.

Keywords: Multimedia presentation attributes, Cognitive style, Visual recall memory

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Kandungan

Perakuan Kerja Tesis	ii
Kebenaran Mengguna	iii
Abstrak.....	iv
Abstract.....	v
Penghargaan	vi
Kandungan	vii
Senarai Ilustrasi.....	xi
Senarai Jadual	xii
Senarai Rajah	xiii
Senarai Lampiran	xv
BAB SATU PENGENALAN.....	1
1.1 Latar Belakang.....	1
1.2 Pernyataan Masalah	10
1.3 Tujuan Kajian.....	27
1.4 Objektif Kajian.....	27
1.5 Soalan Kajian	28
1.6 Hipotesis Kajian.....	30
1.7 Kepentingan Kajian	32
1.8 Skop Kajian.....	34
1.9 Kerangka Konseptual Kajian.....	36
1.10 Definisi Operasional	37
1.11 Penyusunan Tesis.....	40
BAB DUA KAJIAN LITERATUR.....	42
2.1 Pengenalan	42
2.2 Teori Asas Pemprosesan Informasi Visual, Animasi dan Audio.....	43
2.3 Teori berkaitan Visual dan Multimedia	45
2.3.1 Teori Visual	45
2.3.1.1 Model Persembahan Mental Maklumat Visual.....	46
2.3.1.2 Teori Dua Kod Paivio.....	47
2.3.1.3 <i>Cue Summation Theory</i>	49
2.3.1.4 <i>Concept Attainment Theory</i>	51

2.3.1.5 Teori Gestalt	52
2.3.1.6 <i>Visual Complexity Theory</i>	57
2.3.1.7 Dale's Cone of Experience Theory	59
2.3.1.8 <i>Visual Realisme Theory</i>	59
2.3.1.9 <i>Visual Symbol Theory</i>	61
2.3.1.10 Teori Pemikiran Bruner.....	62
2.3.1.11 <i>Visual Abstraction Theory</i>	63
2.3.1.12 Teori Dimensi Visual Statik	65
2.3.2 Teori Multimedia	66
2.3.2.1 Teori Multimedia dan Media Pengajaran.....	67
2.3.2.1.1 Model Integrasi Teks dan Grafik Schnotz.....	67
2.3.2.1.2 Model Persembahan <i>Multidocument</i>	68
2.3.2.1.3 Model Animasi, Dua Kod dan Pemprosesan Maklumat.....	68
2.3.2.1.4 Multimedia dan <i>Generic Model</i>	70
2.3.2.1.5 Multimedia dan <i>Integrated Model</i>	71
2.3.2.2 Teori Multimedia dan Psikologi Kognitif.....	73
2.3.2.2.1 Teori Ingatan.....	73
2.3.2.2.2 Teori Skema.....	74
2.3.2.2.3 Teori Beban Kognitif.....	76
2.3.2.2.4 Teori Beban Kognitif dan Pengajaran	78
2.3.2.2.5 Teori Beban Kognitif dan Pembelajaran	80
2.3.2.2.6 Teori Beban Kognitif dan Umur	81
2.3.2.3 Teori Multimedia dan Gaya Pembelajaran.....	83
2.3.2.3.1 Teori Pengajaran Multimedia Mayer.....	84
2.3.2.3.2 <i>Accelerated Learning Style</i>	87
2.3.2.3.3 <i>Multiple Intellegence Model</i>	88
2.3.3 Model Pengajaran dan Visual	89
2.3.3.1 Model ASSURE	89
2.3.3.2 <i>Kolb's Learning Style Model</i>	91
2.3.3.3 <i>Bloom's Taxonomy Model</i>	92
2.3.3.4 <i>Witkin's Cognitive Style Model</i>	93
2.4 Visual.....	95
2.4.1 Kategori Format atau Atribut Persembahan Visual.....	95
2.4.1.1 Format atau Atribut Visual Statik	96

2.4.1.2	Format atau Atribut Visual Dinamik.....	99
2.4.2	Visual dan Pemrosesan Maklumat.....	100
2.4.3	Visual dan Media Multimedia	102
2.4.3.1	Visual dan Teks	102
2.4.3.2	Visual dan Animasi	105
2.4.3.3	Visual dan Audio.....	109
2.4.4	Visual dan Warna.....	111
2.4.5	Visual dan Persepsi.....	113
2.4.6	Visual dan Proses Kognitif	114
2.4.7	Visual dan Mengingat Kembali	115
2.5	Ingatan.....	119
2.5.1	Definisi Ingatan.....	119
2.5.2	Sistem Ingatan.....	120
2.5.2.1	Sistem Pendaftaran Deria	121
2.5.2.1.1	Rakaman Audio	122
2.5.2.1.2	Rakaman Lisan	122
2.5.2.1.3	Rakaman Visual	123
2.5.2.2	Sistem Ingatan Jangka Pendek.....	124
2.5.2.3	Sistem Ingatan Jangka Panjang	125
2.5.3	Ingatan dan Pemrosesan Maklumat	129
2.5.4	Pengukuran Ingatan	130
2.5.5	Ingatan dan Mengingat Kembali.....	132
2.5.6	Mengingat Kembali Sertamerta Bebas.....	135
2.5.7	Ingatan dan Emosi	136
2.5.8	Ingatan dan Umur	137
2.6	Gaya Kognitif.....	139
2.6.1	Mengukur Gaya Kognitif.....	140
2.6.2	Gaya Kognitif dan Gaya Pembelajaran	142
2.6.3	Gaya Kognitif Bergantungan Medan dan Bebas Medan	145
2.6.4	Gaya Kognitif FD, FI dan Gambar	148
2.6.5	Gaya Kognitif FD, FI dan Warna	149
2.6.6	Gaya Kognitif FD, FI dan Audio	151
2.6.7	Gaya Kognitif FD, FI dan Animasi	151
2.6.8	Gaya Kognitif FD, FI dan Mengingat Kembali.....	153

2.7 Peringkat Pengajian	154
2.7.1 Peringkat Pengajian dan Personaliti Pelajar	156
2.7.2 Peringkat Pengajian, Karektor dan Pengalaman.....	160
2.7.3 Peringkat Pengajian dan Kognitif	161
2.8 Bidang Pengajian	164
2.8.1 Kaitan Bidang Pengajian Berasaskan Lukisan dan Bukan Lukisan	167
2.8.2 Interaksi antara Bidang Pengajian, Gaya Kognitif dan Ingatan Kembali Visual.....	168
BAB TIGA METODOLOGI	170
3.1 Pengenalan	170
3.2 Kaedah Kajian.....	170
3.2.1 Reka bentuk Kajian	170
3.2.2 Model Kajian	171
3.2.3 Kumpulan Eksperimen	172
3.2.4 Instrumen Kajian.....	174
3.3 Populasi, Teknik Persampelan dan Sampel.....	180
3.4 Prosidur.....	188
BAB EMPAT KEPUTUSAN	194
4.1 Pengenalan	194
4.2 Analisis Data.....	194
4.3 Keputusan Ujian Hipotesis.....	204
4.4 Rumusan Hipotesis Kajian.....	219
BAB LIMA PERBINCANGAN, IMPLIKASI, CADANGAN DAN KESIMPULAN	222
5.1 Pengenalan	222
5.2 Perbincangan.....	222
5.3 Implikasi	245
5.4 Cadangan.....	252
5.5 Kesimpulan.....	254
RUJUKAN.....	22259
LAMPIRAN.....	298

Senarai Ilustrasi

Ilustrasi 2.1a Gambar latar putih.....	49
Ilustrasi 2.1b Gambar latar biru	49
Ilustrasi 2.2a-d Perkembangan visual naturalistik ke abstrak	65
Ilustrasi 2.3 Rupa bentuk muka dari <i>naturalism</i> ke <i>stylization</i>	66
Ilustrasi 2.4 Lukisan garisan luar	98
Ilustrasi 2.5 Lukisan garisan struktur.....	98
Ilustrasi 2.6 Gambar warna	98
Ilustrasi 2.7 Gambar hitam putih	98
Ilustrasi 3.1 Format lukisan garisan	179
Ilustrasi 3.2 Format visual warna.....	179
Ilustrasi 3.3 Gambar objek.....	179
Ilustrasi 3.4 Format hitam putih.....	179

Senarai Jadual

Jadual 2.1 Tiga Beban Kognitif dalam Pembelajaran Multimedia	79
Jadual 2.2 Ciri-ciri Perbezaan Individu FD dan FI	146
Jadual 3.1 Faktor-faktor dalam Eksperimen	171
Jadual 3.2 Variabel Kajian	171
Jadual 3.3 Kumpulan Rawatan Format atau Atribut Persembahan Multimedia.....	173
Jadual 3.4 Populasi Pelajar UiTM Perak	181
Jadual 3.5 Sampel pelajar Tahun Satu dan Tahun Tiga UiTM Perak	187
Jadual 4.1 Ringkasan ANOVA Kesan Utama dan Interaksi antara Format atau Atribut Persembahan Multimedia, Gaya Kognitif, Peringkat Pengajian dan Bidang Pengajian.....	195
Jadual 4.2 Min dan Sisihan Piawai Daya Ingatan Kembali Visual Multimedia berinteraksi antara Format atau Atribut Persembahan Multimedia, Peringkat Pengajian, Bidang Pengajian dan Gaya Kognitif	196
Jadual 4.3 Min dan Sisihan Piawai Format atau Atribut Persembahan Multimedia.....	197
Jadual 4.4 Min dan Sisihan Piawai Gaya Kognitif	197
Jadual 4.5 Min dan Sisihan Piawai Peringkat Pengajian.....	198
Jadual 4.6 Min dan Sisihan Piawai Bidang Pengajian.....	198
Jadual 4.7 Min dan Sisihan Piawai Mengingat Kembali Visual Kesan Interaksi Format atau Atribut Persembahan dan PeringkatPengajian.....	199
Jadual 4.8 Min dan Sisihan Piawaian Kesan Interaksi antara Variabel Peringkat Pengajian, Bidang Pengajian dan Gaya Kognitif	201
Jadual 4.9 Min dan Sisihan Piawaian Kesan Interaksi antara Variabel Peringkat Pengajian, Bidang Pengajian dan Format atau Atribut Persembahan.....	202
Jadual 4.10 Rumusan Dapatan Kajian.....	220

Senarai Rajah

Rajah 1.1 Model Penyimpanan Maklumat.....	2
Rajah 1.2 Kerangka Konseptual Kajian	37
Rajah 2.1 Model Tiga Tahap Stor Ingatan Atkinson-Shiffin.....	44
Rajah 2.2 Prinsip Figura dan Latar belakang.....	54
Rajah 2.3 Prinsip Kedekatan.....	54
Rajah 2.4 Prinsip Kesamaan	55
Rajah 2.5 Prinsip Kesenambungan.....	55
Rajah 2.6 Prinsip Penggabungan	56
Rajah 2.7 Prinsip Penutupan.....	56
Rajah 2.8 Tahap Kesukaran <i>Dale's Cone of Experience Theory</i>	60
Rajah 2.9 Tiga Bahagian Visual	61
Rajah 2.10 Tahap skema <i>Abstract, Iconic</i> dan <i>Enactive</i>	62
Rajah 2.11 Pembangunan Visual dari natural ke arah Abstrak	64
Rajah 2.12 Model Animasi, Dua kod dan Pemprosesan Maklumat	69
Rajah 2.13 Hubungan di antara Komponen dan Interaksi Model	70
Rajah 2.14 <i>Integrated Model of Multimedia</i>	72
Rajah 2.15 Hubungan Beban Kognitif dalam Tugas Pengajaran.....	78
Rajah 2.16 Beban Kognitif Faktor <i>Causal</i> dan <i>Assessment</i>	81
Rajah 2.17 Rangka Kerja Integratif Teori Beban Kognitif dan Umur.....	82
Rajah 2.18 Model <i>Generative</i> Pembelajaran Multimedia.....	84
Rajah 2.19 Gaya Pembelajaran Kolb	91
Rajah 2.20 Tiga Sistem Ingatan	121
Rajah 2.21 Proses dalam Mengingat.....	130
Rajah 2.22 Bentuk Lengkungan Kesan Permulaan dan Akhiran.....	134
Rajah 3.1 Model Kajian	172
Rajah 3.2 Struktur Kumpulan Eksperimen.....	174
Rajah 3.3 Teknik Persempelan.....	174
Rajah 3.4 Kaedah Merekod dan Menganalisis Data	193

Rajah 4.1 Plot Min Skor Daya Ingatan Kembali Visual Kesan Format atau Atribut Persembahan Multimedia	205
Rajah 4.2 Plot Min Skor Daya Ingatan Kembali Visual Kesan Gaya kognitif.....	206
Rajah 4.3 Plot Min Skor Daya Ingatan Kembali Visual Kesan Bidang Pengajian....	208
Rajah 4.4 Plot Min Skor Daya Ingatan Kembali Visual Kesan Interaksi antara Peringkat Pengajian dan Format atau Atribut Visual Multimedia.....	210
Rajah 4.5a Plot Min Skor Daya Ingatan Kesan Interaksi antara Gaya Kognitif Bergantungan Medan, Peringkat Pengajian dan Bidang Pengajian.....	215
Rajah 4.5b Plot Min Skor Daya Ingatan Kesan Interaksi antara Gaya Kognitif Bebas Medan, Peringkat Pengajian dan Bidang Pengajian	215
Rajah 4.6a Plot Min Skor Daya Ingatan Kesan Interaksi antara Format atau Atribut Persembahan Multimedia, Peringkat Pengajian dan Bidang Pengajian Berasaskan Lukisan.....	218
Rajah 4.6b Plot Min Skor Daya Ingatan Kesan Interaksi antara Format atau Atribut Persembahan Multimedia, Peringkat Pengajian dan Bidang Pengajian Bukan Berasaskan Lukisan	218

Senarai Lampiran

Lampiran A: Ujian Kemahiran Bentuk-bentuk Tersembunyi (GEFT).....	298
Lampiran B: Set Ujian Daya Ingatan Kembali	299
Lampiran C: Keputusan ujian <i>post hoc</i>	300

BAB SATU

PENGENALAN

1.1 Latar belakang

Semua perkara yang dilalui dan diketahui seharian akan disimpan dalam tempat penyimpanan mental yang luas dan sesetengahnya kekal lama iaitu ingatan. Ingatan ialah proses akal, proses menyimpan pengetahuan dan maklumat pembelajaran (Abd Fatah Hasan, 2001; Hamzah Mohd Daud, 1990; Cullis, Dolan, & Groves, 2002). Ingatan yang baik membolehkan kita mengenali siapa kita, benda, perkara dan aktiviti di sekeliling kita pada bila-bila masa sahaja. Proses ingatan bermula sebaik sahaja kita bangun dari tidur dan pancaindera menerima rangsangan. Ingatan menyediakan kesinambungan hidup yang penuh dengan kegembiraan dan kesedihan, pengetahuan dan kemahiran, kejayaan dan kegagalan, mengenali orang-orang di sekeliling dan tempat-tempat dalam kehidupan kita (Klein, 2002).

Ingatan diukur menerusi kaedah *explicit* (melibatkan kaedah ukuran ingatan yang jelas (dilihat) dan kaedah *implicit* (kaedah yang tersirat dengan menilai ingatan secara tidak langsung). Kaedah *explicit* mempunyai dua ukuran ingatan iaitu mengingat kembali (*recall*) dan pengecaman (*recognition*). Ukuran mengingat kembali (*recall*) memerlukan seseorang mengeluarkan kembali pengetahuan yang disimpan dalam ingatan jangka panjang (Buzan, 1991; Klein, 2002). Manusia mampu mengingat kembali antara 7 ± 2 item dalam satu masa (Miller, 1956). Ukuran mengingat kembali ini menjadi variabel bersandar dalam kajian ini.

Penyimpanan maklumat dalam ingatan terdiri daripada penyimpanan pendaftaran deria (*sensory memory*), ingatan jangka pendek (*working memory*) dan ingatan jangka panjang (*Long term memory*) (Atkinson & Shiffrin, 1968).

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