

THE EFFECTS OF LEARNING STYLE PREFERENCES ON PERFORMANCE IN LEARNING WHICH UTILISES PRINT-BASED OPEN LEARNING MATERIALS

Syahrarom Abdullah
Sekolah Bahasa Dan Pemikiran Saintifik
Universiti Utara Malaysia

ABSTRACT: *This study examines the effects of learning style preferences on the performance in learning utilising print-based distance learning materials. The experimental design was conducted in which 123 randomly selected UUM students were involved. The subjects were asked to study a chapter, which has been converted into distance learning format, taken from the textbook for their business report writing course. The subjects were tested on their mastery of the content of the chapter after one week. The learning style preferences of the subjects were determined using an instrument developed by Reid (1987). The study has found that the learning style preferences of the subjects are different from that found by an earlier study. The influence of the learning experience is speculated to be the cause. Contrary to the hypothesis, which hypothesises a positive relationship between preferences for individual and visual learning styles and learning outcome, the analytical results obtained indicate that only the performance of the three levels of auditory learning style preference are significantly different. To the extent of its reliability, the finding has significant implication for educators in view of the needs to teach more with limited resources. The study, however, is rather limited in scope and a more extensive study is suggested to produce more reliable observations.*

INTRODUCTION

Courses which use print-based materials and which are taught by the conventional face-to-face approach still made up most, if not all, the courses available at local educational institutions. The increasing student enrolment and dwindling supply of financial resources have placed great pressure on learning institutions that employ the conventional face-to-face approach. To overcome some of the problems, the principles and practices of open learning are increasingly used to bring variety and flexibility into traditional education programmes (Race, 1993)

STATEMENT OF THE PROBLEM

Lecture has been the main platform use in the conventional face-to-face teaching to impart knowledge at institution of higher learning for centuries. The lecture format can provide a large group of students with a shared experience, or a memorable insight, or creating the interest to learn. It is also an economical means for teaching contents to a large number of students. However, despite its central role in education, its effectiveness as a means of engendering learning is much doubted by many, especially proponents of modern technology (e.g. Jamalleah Ismail, 1996; Ruslan, Nazrul, & Mohd Yunus, 1994; Soo and Ngeow, 1997; Vockell & Schwarze, 1992). Some of the common criticism against traditional face-to-face teaching are (1) it is not always easy to maintain

same way to several different groups, (3) it is difficult for an absentee to have the lecture repeated. Race (1993) contends that interactive self-study modules can be used to replace selected parts of conventional face-to-face courses. He says there are particular instances where interactive open learning materials, by virtue of its design, can do as well, if not better, a job. For example, introductory material, background material, much-repeated lectures. The use of print based interactive open learning materials may favour certain learners as it presupposes that the learners are already in possess of certain abilities such as the ability to learn independently and follow print based materials efficiently. Studies have revealed that learners vary in their learning styles (Melton, 1990). As such, the use of open learning materials in teaching may disadvantage some learners. This study is conducted to investigate the effects of learning style preference on performance in learning that utilises print-based open learning materials.

LITERATURE REVIEW

Interactive open learning materials

Race (1993) claims that interactive open learning materials can help reduce many of the problems of lecture and 'straight' handout problems. Major problems faced by an instructor such as students being passive and switched-off, difficulty in monitoring learning, lacking teaching skills can quite easily be rectified by the use of interactive open learning materials.

Interactive print-based open learning material is different from a set of lecture notes in several aspects. It is interactive—it requires the users to do something every now and then, mentally or physically. A variety of activities are incorporated into it to provide the opportunities. Besides providing these self-instructional activities, interactive open learning materials also offers a continuous two-way communication that facilitate learning through built-in guided-didactic conversation (Holmberg, 1983) or simulated conversation.

According to Rowntree (1994) some hallmarks of good self-instructional materials are:

1. Clear details of intended outcome

Interactive open learning materials use objectives, or competency descriptors, or statements of learning outcomes, to help learners see exactly what they are supposed to become able to do.

2. Plenty of activity

Interactive open learning materials are interaction-centred. Learning happens by doing, then getting feedback. They are purpose built to be relevant to the needs of a target group of learners.

3. Self-assessment questions and feedback

Interactive open learning materials include many questions, particularly self-assessment questions as part of the text. They utilise 'responses' to help learners find out their mistakes.

4. Useful summaries

Interactive open learning materials end each manageable chunk of text with summary or review to help the learners to assess their mastery of the content covered.

Ng & Chew (1996) contend that the blending of activity, argument and information built around a central core of questions or tasks allows the interactive open learning materials to "carry out all the functions a teacher or trainer would carry out in the conventional situation--guiding, motivating, intriguing, expounding, explaining, provoking, reminding, asking questions, discussing alternative answers, appraising each learner's progress, giving appropriate remedial or enrichment help ... and so on (Rowntree, 1990, p.11)."

Learning style

Learning styles comprises the perceptual preferences based on the human senses such as visual, auditory, kinesthetic and tactile and also the individual and group learning styles (Reid, 1987). Melton (1990) says that "in all academic classrooms, no matter what the subject matter, there will be students with multiple learning styles and students with a variety of major, minor and negative learning styles." (p. 42). The level of these styles and preferences for their use predispose the learners to learn more efficiently when their learning experiences are matched to it. (Davis, Nur Hafisah, & Sophia A. A. Ruru, 1994; Wilson, 1986). To improve achievement the instructional and learning style should be compatible (Hyland, 1993). Other studies (Claxton & Ralston, 1978; Claxton & Murrell, 1987; Hinkelman & Pysock, 1992; Reid, 1987) seem to lend support to this view.

Two studies that look at UUM students' preferred learning styles have produced different conclusions. Sharifah Azizah & Wan Zafna (1995) have found that Malaysian tertiary students besides having a predominant perceptual learning style, they also preferred the individual learning style. Whereas, a more recent

survey (Azian, Hariharan, & Syahrom, 1997), found that more than 65% of a group of tertiary Malaysian students who had used a multimedia courseware preferred to use it together with a partner or in a group. It was speculated that the tertiary learning experience has caused the difference.

OBJECTIVES OF THE STUDY

The major objective of this exploratory study is to investigate the relationship between learning style and performance in learning that utilises print-based open learning materials. It also seeks to examine the learning styles of UUM students.

SIGNIFICANCE OF STUDY

The findings from this research could provide some useful pedagogical insights that may affect the educational and instructional process on a larger scale.

HYPOTHESIS

There is a positive relationship between performance of students who learn using open learning materials and students' preferences for individual and visual learning styles.

METHODOLOGY

Subjects

Six randomly assigned tutorial groups, comprising about 150 subjects registered for the Business Report Writing course in the May 1998 semester, were used in this study. Only 123 subjects completed both the learning style questionnaire and the achievement test.

Research Design

The experimental design was used.

Procedure

The students' learning styles were measured using the Reid's learning style questionnaire at the beginning of the semester. Instead of being taught face-to-face, the students were asked to study the open learning materials which covered the contents of Chapter 6 of the students' text used in BW2012 Business

Report Writing on their own within a period of one week. They were tested immediately after that.

Open learning material used

A chapter of the text, Report Writing for Business (ten edition) by R. V. Lesikar and J.D. Pettit, Jr. (1998) was transformed into open learning material. The conversion followed the procedure recommended by Derek Rowntree (1994) as outlined in his book 'Preparing materials for Open, Distance and flexible learning: An action guide for teachers and trainers'.

Instruments

A 25 item test instrument which consists of 10 true/false and 15 multiple-choice questions was developed by the researcher for measuring students' post-experiment knowledge of the chapter learned. The assessment questions are based on all aspects covered in Chapter 6 of the students' text, Report Writing for Business (ten edition) by R. V. Lesikar and J.D. Pettit, Jr. (1998).

The present study also made use of a questionnaire originally formulated by Reid (1987) to identify the respondents' learning style preferences which are categorised as visual, auditory, kinaesthetic, tactile, group and individual. The questionnaire consists of a total of 30 statements arranged at random with 5 statements being utilised to determine each preference.

Statistical Analysis

Simple descriptive statistics was utilised to describe the post-test achievement results. The ANOVA procedure was used to evaluate the significance of the difference between the test results obtained by students of the different levels of each learning style preference.

Scope and Limitations

The scope of the study is rather limited as it covers only a chapter on business report writing. The number of subjects involved is also relatively small. The ANOVA procedure is more suited for the analysis of larger sample. The test may not be sufficient to measure accurately the subjects' knowledge, as it comprises only 25 test items. Further more, the results used in the analysis are derived from a chapter which lasts only about two study hours. These constraints are the result of due consideration of the subjects' welfare; the researcher does not want to cause too much distortion in the subjects' learning.

FINDINGS AND DISCUSSION

Table 1: Comparison of learning style preference means

Variable	Visual	Auditory	Kinesthetic	Tactile	Group	Individual
Sharifah & Wan's study	12.50	10.76	10.80	10.50	11.00	15.11
Present study	10.95*	11.83 α	11.88 α	11.14*	13.39 α	8.55*

Note: Sharifah & Wan's study - 1995

: Classification of learning style (Reid, 1987)

Means 13.5 and above

11.5 - 13.49

11.49 and less

Major learning style preference (#)

Minor learning style preference (α)

Negative learning style preference (*)

Sharifah and Wan Zalina, in their study (1995), have found that their subjects have a major learning style, which is 'individual', and a minor learning style, which is 'visual'. The present study has revealed that the subjects do not possess any major learning styles. They have three minor preferences and three negative preferences (Table 1). The minor learning style preferences are 'auditory', 'kinesthetic' and 'group', whereas the negative learning style preferences are 'visual', 'tactile', and 'individual'. The results obtained seem to be very much different from the results obtained by Sharifah & Wan. The most significant difference is that 'Individual', a major learning style, in their study has become a negative learning style in the present study. This phenomenon, however, is not unaccountable. Sharifah and Wan Zalina have rightly pointed out that individual learning style is the predominant learning style among Malaysia secondary school children, a result of their learning experience. If the subjects in their study were mostly first year university students (The year of study was not mentioned in their study.), one could expect their learning styles to be still very much similar to those possessed by the secondary school children. UUM students have been advised to form study groups since the very first day they registered as students. The subjects in the present study have been at UUM for at least three semesters. It is, therefore, highly probable for them to exhibit group learning style as a dominant style. The results also seem to concur with Reid's (1987) contention that modifications and extensions of learning styles may occur as students adapt to their new environment.

Subjects having auditory and kinesthetic as minor learning styles possibly could also be a consequence of their learning experience at UUM. Teacher talk still takes up most of the learning time. Role-play and in-class activities are major features in most English courses offered by UUM.

Table 2: Frequency distribution of learning style preference based on strength

Learning style	Category 1 Negative	Category 2 Minor	Category 3 Major	χ^2	p
Visual	65	26	32	21.5122	.0000*
Auditory	48	28	45	5.7686	.0559*
Kinesthetic	46	28	46	5.4000	.0672
Tactile	59	25	39	14.2439	.0008*
Group	33	22	67	27.0656	.0000*
Individual	93	17	11	103.633	.0000*

Note: * significant at the .05 level

With the exception of the kinesthetic learning style, the distributions of the three categories of preference for the other learning styles are unlikely to be chance distributions at the .05 level (Table 2). This suggests that the observation on subjects' learning style preference is not a chance distribution.

Table 3: Frequency distribution of test scores

Value	Frequency	Percent
5	1	.8
10	3	2.4
11	3	2.4
12	7	5.7
13	11	8.9
14	16	13.0
15	13	10.6
16	18	14.6
17	21	17.1
18	8	6.5
19	12	9.8
20	7	5.7
21	3	2.4
Total	123	

The mean score is 15.73 and the Std. Dev. is 2.86. The distribution obtained conforms to that of a normal curve (Table 3). This seems to confirm the randomness of the selection of subjects.

Table 4: Correlation between test score and learning style preference

	Visual	Auditory*	Kinesthetic	Tactile	Group*	Individual
Test Score	-.0072 p=.937	.1990 p=.029	.0742 p=.421	.0067 p=.941	.1865 p=.040	.0029 p=.975

Note: Significant at the .05 level

The correlation statistics indicate that only people with stronger preference for auditory and group learning styles have better scores in the test. Although the correlation is significant at the .05 level, one should not place too much importance on this observation as the correlation coefficient is below .20 (Table 4). The results seem to indicate that learning style preference, on the whole, is not significantly associated with performance in learning using print-based self-study materials.

Table 5: One-way analysis of variance of the test score means obtained by groups based on strength of learning style preference

Auditory					
Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	59.3565	29.6783	4.0224	.0204
Within Groups	118	870.6435	7.3783		
Total	120	930.0000			

These results show that, of the six different learning style preferences, only the differences between the test scores obtained by the three categories of auditory learning style are significant at the .05 level (Table 5). The Scheffe post hoc test reveals a significant difference between the means obtained by those with a negative auditory learning style preference and those with a major auditory learning style preference ($p < .05$). The significant difference between the test scores obtained by subjects with major auditory learning style and those obtained by subjects with negative auditory learning style is a surprise. The inherent nature of print-based open learning materials leads one to believe that the materials would favour those with stronger preference for 'visual', 'tactile', and 'individual' learning styles. Naturally, in learning utilising print-based open learning materials, one would expect subjects with minor or major preference for these learning styles to perform better. It is speculated that the subjects' level of language proficiency may be the cause of the phenomenon observed. The print-based material used in the study is written in English. It is, therefore, not unreasonable to speculate that subjects with higher language proficiency would have advantage over those subjects who do not. Malaysian students who have better listening skills generally also possess better English language proficiency. A person with good listening skills naturally would benefit more from auditory learning.

CONCLUSION

The study seems to indicate that in general, learning style does not significantly bear on the learning outcome of learning using print-based self-study materials. As the present study is rather limited in coverage, further explorations are essential before definitive conclusion can be adduced. In view of the current constraints faced by institutions of higher learning, the use of print based self-study materials in face-to-face learning is a very seductive alternative and deserves further attention.

REFERENCES

- Azian Ibrahim, Hariharan, N. K., & Syaharom Abdullah. (May 1997). Multimedia in the classroom - Fantasy or reality?. Paper presented at the MELTA Biennial International Conference, Kuala Lumpur, Malaysia.
- Claxton, C.H. & Murrell, P. H. (1987). Learning styles: Implications for improving educational practices. ASHE-ERIC Report No. 4. Washington D.C.: Association for the Study of Higher Education.
- Claxton, C.H. & Ralston, R. (1978). Learning styles: Their impact on teaching and administration. ASHE-ERIC Report No.2. Washington D.C.: Association for the Study of Higher education.
- Davis, E.C., Hafsa Nur, & Sophia A.A Ruru. (1994). Helping teachers and students understand learning styles. *English Teaching Forum*, 32(3), 12-29.
- Hinkelman, D.W. & Pysock, J.M. (1992). The need for multi-media ESL teaching methods: A psychological investigation into learning styles. *Cross Currents*, 19, 24-33.
- Holmberg, B. (1983). Guided didactic conversation in distance education. In D. Sewart, D. Keegan, and B. Holmberg (eds.) *Distance education: International perspective*. London: Routledge. pp.114-122.
- Hyland, K. (1993). Culture and learning: A Study of the learning style preferences of Japanese students. *RELC Journal*, 24(2), 68-89.
- Jamalleah Ismail. (1996). Multimedia-assisted language learning for sciences: An innovative, interactive and integrated approach. Paper presented at the English Language Teaching and Learning Seminar, Langkawi, Malaysia.
- Melton, C.D. (1990). Bridging the cultural Gap: A study of Chinese students' learning style preferences. *RELC Journal*, 21(1), 29-54.

- Ng, K. S. & Chew, P.C. (1996). Distance language learning instructional materials: A synthesis of interactivity and self-instruction. In M.K. David (ed.) *Innovations in approaches to the teaching and learning of English*. Kuala Lumpur: MELTA. Pp.163-180.
- Race, P. (1993). *The open learning handbook*, 2nd. Ed. London: Kogan Page.
- Reid, J.M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, 21(1), 87-111.
- Rowntree, D. (1990). *Teaching through self-instruction - How to develop open learning material*. London: Kogan Page.
- Rowntree, D. (1994). *Preparing materials for open, distance, & flexible learning: An action guide for teachers and trainers*. London: Kogan Page.
- Rozana Sani (1997, March 31). Generating success via IT education. *Computimes, NST*, p. 20.
- Ruslan Abdul Rahim, Nazrul Azha Shaari, & Mohd Yunus Mohd Yusof (1994, July). *Multimedia: Is the Medium the Message?* Paper presented at the ITM-AUC Conference, Kuala Lumpur.
- Sharifah Azizah Syed Agil, & Wan Zalina Wan Din (1995). *Students' preferential learning styles*. Unpublished research report.
- Soo, K.S. & Ngeow, Y.H. (April, 1997). *ESL instruction with interactive video: The MCALL Project*. Paper presented at SITE 97 Informational Technology and Teacher Education Conference, Orlando, USA.
- Vockell, E.L., Schwartz, E.M. (1992). *The Computer in the Classroom*. New York: McGraw-Hill Inc.
- Wilson, D.K. (1986). An Investigation of the properties of Kolb's learning style inventory. *Leadership and Organisation Development Journal*, 7, 3-15.

SEMINAR PENYELIDIKAN KE-5 1999
28 September 1999 – 30 September 1999

ATURCARA**28/09/1999 (Selasa)**

02.00 ptg. - 07.00 mlm.	Check In
07.00 mlm. - 08.30 mlm.	Makan Malam
08.45 mlm. - 09.00 mlm.	Taklimat oleh Pengarah Pusat Penyelidikan & Perundingan
09.00 mlm. - 10.30 mlm.	Forum Tujahan Penyelidikan di Ataf Baru: Prof. Dr. Noran Fauziah Yaakob, Prof. Dr. Abdul Rahim Mohd Saad, Prof. Dr. Jamalludin Sulaiman, Prof. Madya Hjh Sabitha Marican & Prof. Madya Dr. Wan Rozaini Sheik Osman
10.30 mlm.	Minum Malam

29/09/1999 (Rabu)

07.00 pg.	Sarapan Pagi
08.30 pg. - 09.30 pg.	Perasmian oleh Naib Canselor Ucap Utama oleh Penyelidik Terbaik UUM 1998
09.30 pg. - 11.00 pg.	Pembentangan Poster dan Minum pagi (10.00 pg. - 10.30 pg. minum pagi)
11.00 pg. - 01.00 tgh.	Sesi Pembentangan Pertama (6 kertas kerja)
01.00 tgh. - 02.00 ptg.	Makan Tengahari
02.30 ptg. - 04.30 ptg.	Sesi Pembentangan Kedua (6 kertas kerja)
04.30 ptg.	Minum Petang
08.00 mlm. - 11.00 mlm.	Makan Malam (BBQ)

30/09/1999 (Khamis)

07.00 pg.	Sarapan Pagi
08.00 pg. - 10.00 pg.	Sesi Pembentangan Ketiga (6 kertas kerja)
10.00 pg. - 10.30 pg.	Pembentangan Poster dan Minum Pagi
10.30 pg. - 12.30 tgh.	Bengkel-bengkel Kemahiran Penyelidikan (OB, IT, Policy, Education & Modelling)
12.30 tgh. - 01.00 tgh.	Penyampaian Hadiah dan Upacara Penutup (oleh YBhg. Dato' TNC(P))
01.00 tgh. - 02.00 ptg.	Makan Tengahari/ Check Out

**SENARAI PEMBENTANG KERTAS KERJA
SEMINAR PENYELIDIKAN UUM 1999**

TAJUK KERTAS KERJA	NAMA PEMBENTANG
Kesan Perubahan Dasar Kewangan Ke atas Perkembangan Sektor Hartanah	Dani Salleh
Sistem Maklumat Akademik UUM: Penerokaan Dengan Menggunakan Perisian SAS	Abdul Razak Saleh
Tingkat Kepuasan Penghuni Terhadap Rumah Kos Rendah: Kajian Kes Di Taman Bersatu Jitra, Kedah	Zakiah Jamaluddin Sharifah Sofiah Atiqah Syed Ibrahim Afifah Abu Yazid
Extraordinary Item Disclosures Among Malaysian Listed Companies: The Case of Pre-Adoption of Revised SI 8	Shamsul Nahar Abdullah Ku Nor Izah Ku ismail Nor Asma Lode
Profil Psikososial Penagih Heroin Yang Mengikuti Program Pemulihan Serenti – Siapakah Mereka?	Mahmood Nazar Mohamed Rusli Ahmad Muhammad Dzahir Kasa
Benarkah Penagih-penagih Kategori Ringan Mudah Dipulihkan?	Mahmood Nazar Mohamed Rusli Ahmad Muhammad Dzahir Kasa
Faktor yang Mendorong Kepada Penggunaan Semula Dadah Di Kalangan Penagih Dadah Psikoaktif	Mahmood Nazar Mohamed Md. Shuaib Che Din Lasimon Matokrem
Masalah dan Cabaran Pengilang Padi Negeri Kedah	Azilah Kasim Sudin Haron Lim Kong Teong
Perception of Sexual Harassment Among Public Administrators	Sabitha Marican
Needs Analysis: Investigating Learners' Language	Zahyah Hanafi Mohammed Shahreza Kader Asna
Dimensions of Teaching: A Cross-Cultural Study	Nurahimah Mohd. Yusoff
Keberkesanan Kendiri dan Kerisauan di kalangan Pelajar Pendidikan Tinggi: Tinjauan Terhadap Satu Kursus Teras Universiti	Hajah Nuraini Yusoff Hajah Jahara Hashim Noran Fauziah Yaakub Rosna Awang Hashim Noor Allam Wan Chek
The Role of Foreign Direct Investment in Kedah Darul Aman	Noor Al-Huda Abdul Karim Sallahuddin Hassan Zalila Othman Munzarina Ahmad Samidi
An Evaluation of the English Language Placement Procedure Sekolah Bahasa dan Pemikiran Saintifik	Noor Allam Wan Chen Noor Hashima Abd Aziz
Migrasi Keluar Di Tanah Rancangan: Kesannya Terhadap Demografi dan Sosio-Ekonomi Masyarakat FELDA	Asan Ali Golam Hassan Haji Hassan Haji Ali

TAJUK KERTAS KERJA	NAMA PEMBENTANG
Market Orientation Practices Among Small and Medium Hotels (SMHs) in Tourist Destination Island of Langkawi	Abdul Aziz Ab. Latif Hamzah Omar Ismail Othman
Testing Factorial Validity of Motivation Constructs Using Confirmatory Factor Analysis	Rosna Awang Hashim
Local Community Perceptions on the Establishment of A New State Park in Perlis	Shamsul Bahrain Rawi Hamimi Omar Dr. Abdul Razak Chik
Gunatenaga Wanita di Bandar dan Luar Bandar Negeri Kedah: Satu Analisis Ekonometrik	Norehan Abdullah Lim Hock Eam Zalina Mohd Mohaideen
Quality of Worklife and Organizational Commitment: Government Accountants in Malaysia	Hajah Mustafa Mohd Hanefah Ali Yusof Md Zain Hamzah Ismail Razali Mat Zin
Recreation and Its Influence on Education Aspiration	Azilah Kasim Hisham Dzakiria Nor Azila Mohd Noor
Impak Perubahan Guna Tanah Di Changlun Terhadap Masyarakat Setempat	Raman a/I Mariyappan
Implikasi Sosial Kemasukan Pendatang Asing Di Kedah	Radziah Abdul Rahim Siti Alida John Abdullah Rohani Ab. Ghani
Indeks Pembangunan Manusia	Haji Hassan Haji Ali Muszafar Mustafa Asan Ali Golam Hasan
The Effects of Learning Style Preferences on Performance in Learning Which Utilises Print-Based Open Learning Materials	Syaharom Abdullah
Kekuatan Fiskal Pihak Berkuasa Tempatan di Kedah	Alida John Abdullah Samihah Khali

TAJUK KERTAS KERJA	NAMA PEMBENTANG
Market Orientation Practices Among Small and Medium Hotels (SMHs) in Tourist Destination Island of Langkawi	Abdul Aziz Ab. Latif Hamzah Omar Ismail Othman
Testing Factorial Validity of Motivation Constructs Using Confirmatory Factor Analysis	Rosna Awang Hashim
Local Community Perceptions on the Establishment of A New State Park in Perlis	Shamsul Bahrain Rawi Hamimi Omar Dr. Abdul Razak Chik
Gunatenaga Wanita di Bandar dan Luar Bandar Negeri Kedah: Satu Analisis Ekonometrik	Norehan Abdullah Lim Hock Eam Zalina Mohd Mohaideen
Quality of Worklife and Organizational Commitment: Government Accountants in Malaysia	Hajah Mustafa Mohd Hanefah Ali Yusof Md Zain Hamzah Ismail Razali Mat Zin
Recreation and Its Influence on Education Aspiration	Azilah Kasim Hisham Dzakiria Nor Azila Mohd Noor
Impak Perubahan Guna Tanah Di Changlun Terhadap Masyarakat Setempat	Raman a/l Mariyappan
Implikasi Sosial Kemasukan Pendatang Asing Di Kedah	Radziah Abdul Rahim Siti Alida John Abdullah Rohani Ab. Ghani
Indeks Pembangunan Manusia	Haji Hassan Haji Ali Muszafar Mustafa Asan Ali Golam Hasan
The Effects of Learning Style Preferences on Performance in Learning Which Utilises Print-Based Open Learning Materials	Syaharom Abdullah
Kekuatan Fiskal Pihak Berkuasa Tempatan di Kedah	Alida John Abdullah Samihah Khelil