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Diverse Learning Styles of Non Formal Adult Learners in Community Colleges in Malaysia

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Abstract

This paper reports on a study that identifies the learning styles of adult learners in non formal education programs at selected Malaysian community colleges. A survey of 959 adult learners from 14 community colleges was carried out to determine their learning styles using a modified version of Conti's Principles of Adult learning Scales. The data gathered were analyzed descriptively using SPSS packages. Results from the descriptive analysis revealed that the adult learners displayed behaviours of learner-centred and teacher-centred styles. Based on these findings, some strategies for instructors teaching community colleges or other adult students are recommended.

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Keyword: Adult learners; Non formal education; Learning styles; Community college, Learner-centred

1. Introduction

The globalization era marks the need for a community to have knowledge and skills to face current and future challenges. In order to face these challenges, life-long learning is regarded as a crucial and relevant requirement to the community. The effort to encourage lifelong learning has indirectly highlighted the importance of non-formal education (Coombs, 1985). Non formal education plays an important role in fulfilling the learning needs that formal education cannot provide.

Most educators found that not everybody learn the same way (Brookfield, 1987). This is especially true for adult learners, due to differences of age and experiences. It is a more diverse group of learners than any other and they have multiple perspectives on learning. Due to this, adults have diverse learning styles (Brookfield, 1987; Smith, 1990). One may like reading, while another does best by trying out practical exercises. This diversity in learning has to be given attention to ensure that the learner needs are met. In addition, the information on learning styles is useful in developing an effective program (Al Ammar, 1998).

Numerous studies have been done regarding learning styles, but these studies are mainly carried out in a formal setting, which are in schools or higher institutions. However, studies in non formal setting are insufficient. For college communities to be the hub for life-long learning, studies done on the learning styles of adult learners of these colleges are still lacking. Therefore, this study aims to determine the learning styles of adult learners in non formal education programs in a community college. Also, the study investigates the extent to which the adult learners favor the learning principles applied by the lecturers.

2. Literature Review

According to Merriam and Cafarella (1999), there is no specific theory which explains the process of adult learning. It is a mix and combination of a variety of theories such as sociology, philosophy, social and psychology as well as influences from education and socio-culture theories.

Adult learning theory can be divided into four categories such as behaviourist, cognitivist, social and humanistic. Behaviorists assert that learning takes place when there is a connection between stimulus and response. Environmental factors are considered to foster learning. Cognitivists, on the other hand, believe that learning is achieved through assimilation and accommodation.

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Assimilation happens when someone applies one's existing knowledge to a new event or problem. Social theorists focus on the fact that learning transpires when one learns from one another through observation, imitation and modelling. According to the humanistic theory, people are active all the time and do not wait for responses. Emotions, feelings, personal quest and relationship do play important roles towards any form of learning activity and intellectual development of an individual.

Within these theories, some confusion exists about the use of the terms "learning style" and "cognitive style" as they are often used interchangeably. There are, however some differences that should be noted. Cognitive style theories are older and more widely researched. They are usually laboratory based and not considered very practical as they usually measure two elements along a continuum. In addition, cognitive style tends to measure abilities using projective techniques including many elements of cognition. Learning style theories, on the other hand, tend to be more recently developed and are usually considered practical because they are classroom specific; measure numerous interacting elements; and most use self-report measures and measure other characteristics of learning, such as environmental preferences for learning, not just cognitive aspects (Bonham, 1987; Keefe, 1979). Learning style, then, is the manner in which students consistently respond to and process information in a learning environment. Learning style will influence the setting where people choose to learn, what they want to learn about, and how they approach the learning situation (Conti & Welborn, 1986).

3. Methodology

For this study, a survey to investigate adult learners' learning styles was administered at selected Malaysian community colleges. 14 out of 37 colleges were randomly selected to be involved in this research using stratified cluster sampling. Community colleges in Malaysia are administered by the Ministry of Higher Education Malaysia. These colleges were established with the aim of providing and encouraging life-long education to the community. There are two types of programs offered in the Community colleges: formal education program offers full-time courses at certificate and diploma levels and non-formal education program which is also known as short courses is offered for specific skills and work training. The main objective of the Community colleges is to provide secondary school-leavers with full-time certificate courses and to the local community, the opportunity to develop their potential and achieve excellence through short courses in education and training.

Quantitative data were obtained from 959 adult learners who attended the short courses. These adult learners comprised of 217 male learners and 742 female learners. A total of 277 (28.9%) are between 21 to 25 years old, 222 (23.1%) participants are identified to be from 26 to 35 years old, 242 (25.2%) are from 36 to 45 years old, 181 (18.9%) are from 46 to 55 years old the rest 37(3.9%) of the participants are believed to be more than 55 years old. As for the qualitative data, 6 participants were selected for the interviews.

A set of questionnaires which is a modified version of the Principles of Adult Learning Scales by Conti (1978) was used to obtain quantitative data for the study. This set of questionnaires has been modified by Spoon and Schell (1998) and assisted by Dr. Gary J. Conti. There are 44 items containing 20 negative items and 24 positive items which are used to measure seven elements found in the principles of adult learning which are 1) Learner-Centred Activities; 2) Personalizing Instruction, 3) Relating to Experience, 4) Assessing Students Needs, 5) Climate Building, 6) Participation in the Learning Process, 7) Flexibility for Personal Development. The reliability is 0.9 Cronbach alpha. The learning style is determined based on scores developed by Conti (2004) and the interpretation of mean is based on Jamil (2002). In addition, semi-structured interviews were conducted to triangulate the findings.

4. Results and Discussions

Based on the scoring guide developed by Conti (1978), findings of the study revealed that there are two distinct learning styles among the adult learners in non formal programs of the community colleges. The findings showed that 541 (56.4%) adult learners have learner-centered learning styles and 418 (43.6%) learners possess teacher-centered learning style. These findings contradict with previous studies and Conti's learning model that postulate that adult learners favor learner-centered approach. In-depth analysis of each individual learning style indicates that the majority of the adult learners have learner-centered learning style. 484 (50.5%) learners are at low level while 57 (6.0%) are at moderate level. In addition, the majority of learners with teacher-centred learning styles are categorized into the moderate level. This is indicated by 406 (42.3%) of them are at low level and 12 (1.1%) learners are at moderate level.

This study also determines the extent to which the adult learners favor the learning principles applied by the lecturers in their teaching. It is found that adult learners favor at a low level, learner-centered activities applied by the lecturers ($m=2.01$). Teaching practices like planning teaching as different as possible from student background, encouraging student to motivate himself/herself during group discussion, using written evaluation as performance evaluation rather than program planning tool, using methods that foster quiet activity to control class, using formal evaluation techniques as method of evaluation and using the same evaluation criteria with every group, are favored at low levels. On the other hand, teaching practices such as using disciplinary action in class when necessary, encouraging students to unquestionably accept knowledge offered, determining the educational objectives for each student, using one basic teaching method, using what literature suggest that adults need to learn and using materials that were originally designed for youth are favored at moderate levels by the adult learners.

Table 1. Learner centered activities

Item	Mean	Level
I favor lecturers who		
1. Use disciplinary action in class when necessary	2.96	Moderate
2. Encourage student to unquestionably accept knowledge offered	2.36	Moderate
3. Determine the educational objectives for each student	2.78	Moderate
4. Plan teaching as different as possible from student background	1.80	Low
5. Encourage student to motivate himself/herself during group discussion	1.73	Low
6. Use one basic teaching method	2.73	Moderate
7. Use written evaluation as performance evaluation rather than program planning tool	1.65	Low
8. Use what literature suggest that adults need to learn as my chief criteria for planning learning activities	2.47	Moderate
9. Use methods that foster quiet activities to control class	1.60	Low
10. Use formal evaluation techniques as method of evaluation	1.60	Low
11. Use materials that were originally designed for youth	2.87	Moderate
12. Use the same evaluation criteria with every group	1.74	Low
LEARNER CENTERED ACTIVITIES	2.01	Low

Findings of the study indicate that the adult learners prefer ‘personalizing instruction’ (the extent to which an instructor employs a number of techniques that personalize learning to meet students needs, emphasizing cooperation rather than competition) factor at a high level ($m=3.67$). Analysis of the items of the factor shows that the adult learners do not favor lectures as the primary teaching method and when lecturers encourage competition among the students. Whereas teaching practice like using different educational tool with different group of students is favored by adult learners at a moderate level. Adult learners are also found to favor moderately when lecturers allow students with special needs more time to complete activities, use different teaching techniques depending on the students, let each student work at his/her own pace to learn a new concept, match instructional objectives to the individual needs and use students motives for participating to be the major determinant to plan. These results are shown in Table 2.

Table 2. Personalizing instruction

Item	Mean	Level
I favor lecturers who		
1. Allow students with special needs more time to complete activities when appropriate	4.11	High
2. Use lecturing as the primary method	2.14	Low
3. Use different teaching techniques depending on the students, letting each student work at his/her own pace to learn a new concept	4.43	High
4. Let each student work at his/her own pace to learn a new concept	4.33	High
5. Match instructional objectives to the individual needs	4.42	High
6. Use students motives for participating to be the major determinant to plan	4.61	High
7. Provide participants same learning activities	1.41	Low
8. Encourage competition among the students	2.20	Low
9. Use different educational tool with different group of students	3.66	High
PERSONALIZING INSTRUCTION	3.67	High

Findings for factor relating to experience indicate that this factor is highly favored by adult learners ($m=4.35$). Item analysis shows that adult learners highly favor teaching practices that plan learning activities by taking into account students prior experience, plan activities that will encourage each learner’s growth so that his dependence diminishes, encourage student individual thinking by asking question, organize activities according to student’s problem, help student relate new learning to their prior experience and use real life situation as example. The two items that score the highest means are organizing activities according to student’s problem ($m=4.47$) and helping student relate new learning to their prior experience ($m=4.62$). The findings for this factor are illustrated in Table 3.

Table 3. Relating to Experience

Item	Mean	Level
I favour lecturers who		
1. Plan learning activities by taking into account the participants' prior experience	4.35	High
2. Plan activities that will encourage each learner's growth so that his dependence diminishes	4.01	High
3. Encourage student individual thinking by asking question	4.35	High
4. Organize activities according to student's problem	4.47	High
5. Help student relate new learning to their prior experience	4.62	High
6. Use real life situation for example	4.35	High
RELATING TO EXPERIENCE	4.35	High

Adult learners are also found to highly favor lecturers who assess student needs in their teaching ($m=4.40$) as indicated in Table 4. Adult learners also highly prefer that their lecturers help students diagnose the gap between their goals and their present level of performance, meet informally with student to discuss their goals and experiences, meet individually with student to help identify their educational needs and help student develop short range and long range objective when teaching. The two items that scored the highest means are helping student diagnose the gap between their goals and their present level of performance ($m=4.41$), as well as meeting informally with student to discuss their goals and experiences ($m=4.66$).

Table 4. Assessing students needs

Item	Mean	Level
I favour lecturers who		
1. Help student diagnose the gap between their goals and their present level of performance	4.41	High
2. Meet informally with student to discuss their goals and experiences	4.66	High
3. Meet individually with student to help identify their educational needs	4.34	High
4. Help student develop short range and long range objectives	4.20	High
ASSESING STUDENT NEEDS	4.40	High

Findings on climate building are shown in Table 5. The findings show that this factor has a high mean indicating that student prefer their lecturers who set a friendly and favorable climate in the classroom ($m=4.28$). Item analysis indicate that adult learners highly prefer teaching practices that encourage discussion among student, rely heavily on student skills to achieve educational objectives, accept errors as a natural part of the learning process and allow break when conducting program. The two items with the highest means are encouraging discussion among student ($m=4.36$) and relying heavily on student skills to achieve educational objectives ($m=4.43$).

Table: 5. Climate Building

Item	Mean	Level
I favour lecturers who		
1. Encourage discussion among student	4.36	High
2. Rely heavily on student readily skills that most student possess to achieve educational objectives	4.43	High
3. Accept errors as a natural part of the learning process	4.30	High
4. Allow break when conducting program	4.05	High
CLIMATE BUILDING	4.28	High

The study also found that adult learners highly prefer that their lecturers apply the sixth factor which is participation in the learning process ($m=4.56$) (Table 6). In particular, the adult learners highly favor that their lecturers allow student to participate in developing the criteria for monitoring success, arrange the classroom so that interacting among students is facilitated, solicit input from student regarding content of the educational program and encourage students to identify problem to be solved. The two items with the highest mean scores are 'arranging the classroom so that interacting among students is facilitated' ($m=4.68$) and 'encouraging students to identify problem to be solved' ($m=4.66$).

Table 6. Participation in the learning process

Item	Mean	Level
1.Allow student to participate in developing the criteria for monitoring success	4.48	High
2.Arrange the classroom so that interacting among students is facilitated	4.68	High
3.Solicit input from student regarding content of the educational program	4.42	High
4.Encourage students to identify problems to be solved	4.66	High
PARTICIPATION IN THE LEARNING PROCESS	4.56	High

Finally, the adult learners were found to moderately favor the seventh factor-Flexibility for Personal Development, as shown in Table 7. Their least prefer items are ‘provide information other than serve as a facilitator’ (m=1.86) and ‘use teaching approach as planned’ (m=1.90). They moderately prefer items such as sticking on the instructional objectives of the program, maintaining a well-controlled learning environment to reduce interference to learning and avoiding discussing non related issues.

Table 7. Flexibility for personal development

Item	Mean	Level
1.Provide information other than serve as a facilitator	1.86	Low
2.Stick on the instructional objectives that I wrote at the beginning of the program	3.56	Moderate
3.Maintain a well-controlled learning environment to reduce interference to learning	3.66	Moderate
4.Use teaching approach as planned	1.90	Low
5. Avoid discussing non related issues	3.89	Moderate
FLEXIBILITY FOR PERSONAL DEVELOPMENT	3.56	Moderate

Findings from the interview are found to support the quantitative data where the adult learners are found to merge teacher-centered approach and student-centered approach. Findings from the interview are illustrated in Table 8 below.

Table 8. Interview Findings

Factors	Findings
Leaner centered activities	1. Lecturer determines what to learn 2. No disciplinary actions in class 3. No test
Personalizing instruction factor	1. Personalized to students due to student differences
Relating to experience	1. Need to relate to previous experiences to facilitate understanding
Assessing needs	1. Need to done due to student differences 2. Need to be carried out due to student differences
Climate building	1. Non formal 2. Non stress 3. Friendly relationship with lecturers 4. Cooperative atmosphere 5. Sequential instruction
Participation in the learning process	1. Students getting involved during instructional planning due to student differences. But there are students who prefer non involvement due to lack of knowledge 2. Prefer to be involved in class activities for better understanding
Flexibility for personal development	1. Prefer lecturers to use various teaching method

5. Implications and Conclusions

Overall, the results from the study revealed that the adult learners displayed behaviours of learner-centred and teacher-centred styles in a non formal education program that takes place in a community college. The findings of this study tend to support the contention that as people age, their learning style preferences become less pronounced and more variation is found among learning style preferences (Miglietti & Strange, 2002; Mickler & Zipper, 1987). According to Conti (2004), learner-centered is the most suitable method for adult learners. On the contrary, the results of the study show that not all Malaysian adult learners favor this method. There are groups of learners that prefer teacher-centered method instead. The results also indicate that it is neither in favor of Conti’s Teaching and Learning Model nor Knowles’s Andragogy Learning Model. Factors that are believed to contribute to the results may derive from our existing examination-oriented education system

which tends to nurture school students to be dependant on their teachers for inputs (Rusnani & Rosseni, 2006). In the long run, this learning style would influence one's way of learning throughout his/her life.

In conclusion, the findings have relevance and implications for the education of this segment of the population. The information gathered from the adult learners can help to develop an effective program (Al-Ammar, 1998; Rochford, 2003). Knowledge of learning style research can assist community college educators in becoming more sensitive to the learning needs of each student, especially when working with older adults. No one method of learning should be used. Rather, all modes of learning should be addressed in any learning environment. Learning style preference is an important area of practice: it is a technique to get learners involved in the learning experience, to get them interested in their own learning, and it is a method to guide educators in using a variety of approaches when designing educational activities. In addition, the information obtained from the study will be helpful for the community college administrators to make changes to programmes offered by taking into account aspects of andragogy as more adult learners seem to be in favour of the principles of adult learning used by their lecturers in the classroom. The findings too can initiate more ideas relating to future research particularly in the fields of adult education and non formal learning in Malaysia.

References

- Al-Ammar, S. (1998). The influence of individual and organizational characteristics on training/ motivation and effectiveness. Unpublished Doctoral Dissertation. State of New York at Albany University.
- Bonham, L. A. (1987). Theoretical and practical differences and similarities among selected cognitive and learning styles of adults: An analysis of the literature. (Doctoral dissertation, The University of Georgia, 1987). *Dissertation Abstracts International*.
- Brookfield, S. (1987). *Understanding and facilitating Adult Learners*. San Francisco: Jossey-Bass Publisher
- Coombs, P. (1985). *The World Crisis in Education*. Oxford. Oxford University Press.
- Conti, G. J. (1978). Principles of Adult Learning Scales: An instrument for measuring teacher behavior related to the collaborative teaching-learning mode. Unpublished Doctoral Dissertation. Northern Illinois University.
- Conti, G. J. (2004). Identifying your teaching styles. In Michael Galbraith (Eds.) *Adult Learning Methods* (pp75-91). Florida: Krieger Publishing Co.
- Conti, G. J., & Welborn, R. B. (1986). Teaching-learning styles and the adult learner. *Lifelong Learning*, 9(8), 20–24.
- Cynthia, L., Miglietti & Strange, C. C. (2002). Learning Styles, Classroom Environment Preferences, Teaching Styles, and Remedial Course Outcomes for Underprepared Adults at a Two-Year CollegeCommunity College Review Volume 26, No. 1, 1-19.
- Jamil Ahmad (2002). Pemupukan Budaya penyelidikan di Kalangan guru sekolah : satu penilaian. Doctoral Thesis. National University of Malaysia.
- Keefe, J. W. (1979). Learning style: An overview. In J. W. Keefe (Ed.), *Student learning styles : Diagnosing and prescribing programs* (pp. 1–17), Reston, VA : National Association of Secondary School Principals.
- Merriam, S. B., & Cafarella, R.S. (Eds.). (1999). *Learning in Adulthood. A Comprehensive Guide*. San Francisco: Jossey-Bass Publisher.
- Mickler, M. L., & Zippert, C. P. (1987). Teaching strategies based on learning styles of adult students. *Community/Junior College Quarterly*, 11, 33-37.
- Regina, A. (2003). Assessing Learning Styles To Improve The Quality Of Performance Of Community College Students In Developmental Writing Programs: A Pilot Study *Community College Journal Of Research And Practice*, 27: 665–677
- Rusnani Abdul Kadir & Rosseni Din. (2006). Computer mediated Communication: A Motivational Strategy towards Diverse Learning Style. *Jurnal pendidikan*.31, 41-51.
- Spoon, J. C. & Schell, J.W. (1998). Aligning student learning styles with instructor teaching styles. *Journal of Industrial Teacher Education*. 35(2), 41-56.