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Adults' participation in informal learning activities: Key findings from the adult education participation survey in Taiwan

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This study investigated the informal learning experiences expressed by Taiwanese adults (aged from 16 to 97) and examined their involvement related to selected socio-demographic characteristics. Data of the 2008 Adult Education Participation Survey in Taiwan and Fujian Area were used to look at different variables of adults' demographic characteristics in relation to their informal learning participation. Results were based on the responses of 10,000 adults to the survey. The key findings indicated that the percentage of adults who had, or had not, participated differed by gender, age, educational background and annual income. Taiwanese adults' preferred method of workplace informal learning was interpersonal communications and sharing. Similarities and differences between this study and past international research are also discussed.

Introduction

Lifelong learning has been recognised as a key instrument to foster the growth of the knowledge economy and higher living standards in the European Union (EU) and the Organizations for Economic Cooperation and Development (OECD) countries. Thus, national surveys focusing on the distribution and extent of adult learning have been conducted in many developed and developing countries around the world (Merriam, Caffarella & Baumgartner 2007; Rubenson & Desjardin 2009). The results of these surveys provide useful information for policy-makers, adult education providers and the scholarly community to understand developments and trends in adult education, identify barriers affecting adults' participation in different formats of learning activities, and provide necessary assistance to those who are in need. Adult learning, according to the broad context of lifelong learning, can be classified as formal, non-formal and informal learning, and the informal learning is the most popular approach engaged in by adults (Merriam, Caffarella & Baumgartner 2007). Informal learning has received considerable attention from adult education practitioners and researchers. Smith and Smith (2008) indicate that understanding adults' participation in informal learning is critical because successful informal learning experiences might lead adults to participate in formal and non-formal education. Therefore, it is definitely valuable to discuss and further examine the involvement of adults in informal learning activities from data in national surveys in order to better assist them to pursue formal and non-formal education and to design effective adult education and training programs.

In the United States, the National Center for Education Statistics (NCES) began to ask questions about adults' informal learning participation in the National Household Education Survey (NHES), a national survey that specifically focused on adults' participation in educational activities, in 2005 (Smith & Smith 2008). In

Australia, the Australian Bureau of Statistics also posted informal learning questions in the adult learning section of the 2006–2007 Multi-Purpose Household Survey (MPHS) (Australian Bureau of Statistics 2008a). An analysis report based on the results of the MPHS states that 'informal learning is particularly important to support disadvantaged adults who may face barriers in accessing more structured learning activities' (Australian Bureau of Statistics 2008b: 1). In Taiwan, the central government officially implemented The Lifelong Learning Act in 2002, and various types and programs of adult education/training have been offered and organised island-wide through public and private sectors. One of the obvious successes, in particular, is that the number of community universities, a kind of non-formal educational institution for adults, has blossomed significantly all over Taiwan. At the time of this study, there were 96 community universities (including 14 aboriginal community universities) spread across most of the major cities and counties, and the majority of learners are women whose age group is between 30–50 years. Also, social changes, such as the increase in the number of ageing people and new immigrants (mainly from South East Asia), have influenced the practical and policy aspects of lifelong learning development on the island (Wang 2008). Thus, various non-formal courses and informal learning events designed for seniors and new immigrants have been increasingly accessible at senior centres, community universities, vocational training centres and on the Internet. In order to better understand the situation of adults' participation in learning activities, the Ministry of Education decided to conduct the first national survey of adult education participation in 2008 based on recommendations from research conducted by Wu, Li and Lai (2005). A section, which consisted of six questions related to informal learning activities, was included in addition to formal and non-formal learning participation questions in the telephone interview survey (Taiwan Ministry of Education 2009). Through investigations of adult participation in informal learning activities,

adult educators and policy-makers can have clearer ideas for crafting practical solutions on how to create better learning environments and opportunities for adults.

With the bulk of the related literature on adults' informal learning participation coming from a Western perspective, Taiwan, one of the four tiger economies in Asia, is an ideal setting for a probe on this topic given the substantial differences in economy, culture and various social characteristics when compared with Western countries. The present study analyses data drawn from the 2008 Adult Education Participation Survey in Taiwan and Fujian Area database provided by the Taiwan Ministry of Education. The objective of this research is to identify the major patterns of Taiwanese adults' participation in informal educational activities and to explore the relationships of participants' informal learning preferences and their demographics.

Literature review

According to Marsick, Walkins, Callahan and Volpe (2006), the concept of informal learning was the key element in Dewey's (1938) theory of learning from experience and Lewin's (1951) field theory. Dewey (1938) believed that experience enabled learners to think reflectively during their learning process. The impact of reflective thinking develops great potential to lead to the occurrence of common, simple and everyday informal learning. In the workplace, Marsick and Watkins (1990) note that informal or incidental learning occupies a significant amount of learning opportunities in organisations because workers often set out learning intentionally and explicitly when they interact with others in the midst of work activities; sometimes, workers are only partially or completely not aware of it. Having acknowledged the value of informal learning in the lifelong learning context, Merriam et al. (2007: 35) indicated that informal learning occurs 'in our everyday activities whether

we are at work, at home, or in community, and lacking institutional sponsorship, adults rarely label these activities as learning'. Smith and Smith (2008: 67–68) further explain informal learning activities by listing examples, such as:

> reading books or magazine articles; viewing do-it-yourself instructional videos; attending and participating in book clubs, health-related groups and organizations, cultural events, or conferences and conventions; or using television, computer software, or the Internet to learn about something of personal interest or to develop a skill for personal use.

The above examples fit well into Schugurensky's (2000) categories of informal learning: self-directed learning, incidental learning and socialisation (tacit learning). Among the three types of informal learning, the theories and models of self-directed learning are well developed. The early research of Tough (1967, 1971) first provided a detailed explanation of the nature of self-directed leaning. The concept of 'andragogy' proposed by Knowles (1968) also includes self-directed learning as a crucial aspect in the assumptions about the adult learner. Merriam et al. (2007) note that self-directed learning has been identified as one of the major approaches that adults utilise to acquire knowledge and skills in their daily life, and its concept and practice have become a much studied area in the adult education domain. In recent years, the emergence of on-line technology has brought a huge impact to the investigations and applications of self-directed learning in school and workplace settings; thus, adult educators and human resource developers have gradually recognised the critical role of self-directed learning in developing learners' lifelong learning skills.

Although there is a tendency for our society to pay attention to the vast potential of informal learning, Foley (1999) argues that informal learning is still hard to recognise and evaluate because it often happens incidentally, and people are not aware of its influence.

Schugurensky (2000) indicates that adults sometimes internalise values, beliefs, attitudes and behaviours through the process of unintentional learning and they are not aware that they are learning something. In workplace settings, informal learning is also of central interest for workplace learning, and yet, as observed by Eraut (2004), it is an area that is under-researched and under-discussed. Therefore, funding is always focused on formal and non-formal educational/training initiatives in private and public sectors. Golding, Brown and Foley (2009: 48) state that informal learning 'holds less value and is less powerful by locating it outside policy priorities, and therefore situating it as excluded and a less economically profitable counterpart of formal learning'. This suggests that more research on informal learning, particularly in the adult education sectors, might help policy-makers to value the significance and contribution of informal learning in shaping the development of a learning society, and increasing the investment in adult education.

Related studies (Australian Bureau of Statistics 2008b; Livingstone 2000; Merriam et al. 2007) show that informal learning activities contribute significant amounts of time in adults' total learning involvements. The findings of the first Canadian survey of informal learning practices state that over 95% of Canadians are involved in some form of explicit informal learning activities (Livingstone 2000). A recent national survey conducted in Australia also found that 74% of Australians undertook some type of informal learning within the 12 months in 2006–2007 which was much higher than non-formal learning (30%) and formal learning (12%) (Australian Bureau of Statistics 2008b). In the USA, the 2005 NHES included six questions for participants to answer about their engagement in informal learning activities during the year prior to the survey conducted from January 23 to April 24, 2005, and the results of the survey revealed that about 70% of Americans reported participating in informal learning activities for personal interest (NCES 2005). Smith and

Smith (2008) conducted a secondary data analysis to identify the relationships of lower-education adults' participation in informal activities and selected demographic characteristics of the participants from the statistics of the NHES. They found that adults with the least education tended to engage less in informal learning activities than those with higher academic accreditation, and older adults participated in more informal learning activities than younger adults.

The present study adopts the research framework of Smith and Smith (2008). We analysed data from the 2008 Adult Education Participation Survey in Taiwan and Fujian Area database and were also especially interested in the informal learning section. It is hoped that the results of the research will contribute to identifying practical implications in developing better adult education programs in Taiwan and even in other countries.

Method

This research can be construed as a secondary data analysis study. According to Boslaugh (2007), secondary data analysis enables researchers to focus on selecting primary data that are appropriate to the research question being studied and the resources available to them. In this study, the source of the primary data was from the 2008 Adult Education Participation Survey in Taiwan and Fujian Area database. The survey data were comprised of 10,000 responses from adults living in Taiwan. All participants were contacted by telephone via a random digit dialing (RDD) system from 1 June through 1 July 2009 (Taiwan Ministry of Education 2009). The sample consisted of 4,180 (48.1%) males and 5,190 (51.9%) females, and their ages ranged from 16 to 97 years. Full details of the survey methodology can be found in *A report of the 2008 adult education participation survey in Taiwan and Fujian area* (Taiwan Ministry of Education 2009). The survey contained three sections: informal learning participation,

formal and non-formal learning participation, and demographics. All participants were instructed to answer the survey queries about their engagement in learning activities during the previous year (2008). This study analyses only those responses to survey questions in the informal learning section.

This study considered the following three research questions:

- What are the distributions of Taiwanese adults' participation in major forms of informal learning activities?
- Is there a relationship between Taiwanese adults' participation in informal learning activities among the selected participants' demographic characteristics (gender, age, education background and annual income)?
- What are the major means of informal learning in the workplace for Taiwanese working adults?

In addition to reporting respondents' participation in informal learning activities, this study especially examines the relationship between participation in informal learning among these adults and selected demographic characteristics (gender, age, educational background and annual income). This was done to help adult educators and policy-makers understand the impact of adult learners' demographics in adult participation in informal learning activities, and furthermore, to assist them in developing sustainable adult education/training programs. To address research questions 1 and 3, descriptive statistics (frequency and percentage) were employed to describe the distributions of respondents' informal learning participation and working adults' informal learning preferences in the workplace. To address research question 2, inferential statistics, such as the chi-square test of independence, were used to assess the association between the four selected demographics and participants' responses in informal learning activities.

Results

In the survey, six questions were asked regarding respondents' participation in informal learning activities. Five asked about respondents' participation through the following informal learning approaches: reading informative books/magazines, watching educational TV programs, listening to didactic radio programs, attending educational trips, and using the Internet for learning. The other question in the informal learning section was related to informal learning in the workplace. Participants, who were employed, expressed the major types of informal learning methods at their places of work.

Table 1 presents frequencies and percentages of participants' responses to the first five questions. More than half of the respondents (57.47%) watched educational TV programs followed by reading informative books/magazines (44.73%), used the Internet for learning (42.14%), attended educational trips (21.70%) and listened to didactic radio programs (12.36%). Results indicated that the majority of adults did some type of informal learning in 2008.

Table 1: Frequency and percentage of participants' responses to informal learning activities

Informal learning activity type	N	%
Reading informative books/magazines		
Yes	4,473	44.73
No	5,527	55.27
Watching educational TV programs		
Yes	5,747	57.47
No	4,253	42.53
Listening to didactic radio programs		
Yes	1,236	12.36
No	8,764	87.64
Attending educational trips		
Yes	2,170	21.70
No	7,830	78.30
Using the Internet for learning		
Yes	4,214	42.14
No	5,786	57.86

To assess the relationships between participants' demographics and informal learning activities, chi-square tests were administered. The results (Table 2) showed that participants' demographics were significantly related to reading informative books/magazines. Effect sizes (Cramer's V) for each relationship were between 0.023 and 0.415. Analyses of the relationship between respondents' demographics and watching educational TV programs also showed significance (Table 3). Effect sizes were weak (all Cramer's $V < 0.10$). Significant associations, except for gender, were also found in the

relationships between subjects' demographics and listening to didactic radio programs. Table 4 reports the results of the chi-square analyses. The values of effect sizes (Cramer's V) indicated weak relationships. There were also significant effects (all $p < 0.001$) on the relationships between respondents' demographics and two other informal learning activities (attending educational trips and using the Internet for learning). The results of the analyses are shown in Tables 5 and 6.

One of the research questions of this study was to identify the methods of informal learning that working adults utilised in their workplace. The most popular approach was interpersonal communications and sharing (27.17%) and the second favourable method was independent research on the Internet (21.59%), followed by reading information resource (21.28%), reflecting on past experiences (14.75%), mentoring (12.95%), observing (9.87%), individual experimentation (8.99%) and learning from role models (4.74%).

Table 2: Relationship between participants' demographics and reading informative books/magazines

Demographics		Frequency (N)		χ^2	Effect size (Cramer's V)
		Yes	No		
Gender	Male	2,093	2717	5.46*	0.023
	Female	2,380	2810		
Age	16–24	213	269	310.97***	0.211
	25–34	1,037	978		
	35–44	1,288	1171		
	45–54	1,165	1438		
	55–64	567	979		
	65 and above	203	692		
Educational background	Elementary school and less	110	1060	1722.25***	0.415
	Junior high school	218	818		
	Senior high (vocational) school	1,216	1993		
	Junior college	920	742		
	College	1,548	837		
	Postgraduate	461	77		
Annual income (in U.S. dollar)	No income	692	1656	869.06***	0.295
	Less than $6,250	437	1001		
	$6,250–9,350	604	869		
	$9,350–12,500	514	643		
	$12,500–18,750	823	671		
	$18,750–25,000	592	306		
	$25,000–31,250	293	194		
	$31,250–46,850	294	135		
	$46,850 and above	224	52		

*$p < .05$. **$p<.01$.***$p < .001$

Table 3: Relationship between participants' demographics and watching educational TV programs

Demographics		Frequency (N)		χ^2	Effect size (Cramer's V)
		Yes	No		
Gender	Male	2,700	2,110	6.78*	0.026
	Female	3,047	2,143		
Age	16–24	261	221	34.53***	0.059
	25–34	1,159	856		
	35–44	1,424	1,035		
	45–54	1,525	1,078		
	55–64	937	609		
	65 and above	441	454		
Educational background	Elementary school and less	538	632	80.47***	0.090
	Junior high school	572	464		
	Senior high (vocational) school	1,917	1,292		
	Junior college	966	696		
	College	1,432	953		
	Postgraduate	322	216		
Annual income (in U.S. dollar)	No income	1,249	1,098	50.57***	0.071
	Less than $6,250	781	657		
	$6,250–9,350	842	631		
	$9,350–12,500	678	479		
	$12,500–18,750	889	605		
	$18,750–25,000	575	323		
	$25,000–31,250	298	189		
	$31,250–46,850	260	169		
	$46,850 and above	175	102		

*$p < .05$. **$p<.01$.***$p < .001$

Table 4: Relationship between participants' demographics and listening to didactic radio programs

Demographics		Frequency (N)		χ^2	Effect size (Cramer's V)
		Yes	No		
Gender	Male	589	4,221	0.13	0.004
	Female	647	4,543		
Age	16–24	45	437	16.70**	0.041
	25–34	241	1,774		
	35–44	330	2,129		
	45–54	351	2,252		
	55–64	183	1,363		
	65 and above	86	809		
Educational background	Elementary school and less	101	1,069	56.78***	0.075
	Junior high school	106	930		
	Senior high (vocational) school	362	2,847		
	Junior college	213	1,449		
	College	353	2,032		
	Postgraduate	101	437		
Annual income (in U.S. dollar)	No income	238	2,109	59.72***	0.077
	Less than $6,250	160	1,278		
	$6,250–9,350	175	1,298		
	$9,350–12,500	148	1,009		
	$12,500–18,750	162	1,332		
	$18,750–25,000	159	739		
	$25,000–31,250	77	410		
	$31,250–46,850	64	365		
	$46,850 and above	53	224		

*$p < .05$. **$p<.01$.***$p < .001$

Table 5: Relationship between participants' demographics and attending educational trips

Demographics		Frequency (N)		χ^2	Effect size (Cramer's V)
		Yes	No		
Gender	Male	929	3,881	31.05***	0.056
	Female	1,241	3,949		
Age	16–24	96	386	36.79***	0.061
	25–34	455	1,560		
	35–44	576	1,883		
	45–54	553	2,050		
	55–64	361	1,185		
	65 and above	129	766		
Educational background	Elementary school and less	111	1,059	378.51***	0.195
	Junior high school	122	914		
	Senior high (vocational) school	601	2,608		
	Junior college	419	1,243		
	College	705	1,680		
	Postgraduate	212	326		
Annual income (in U.S. dollar)	No income	378	1,970	347.92***	0.186
	Less than $6,250	224	1,214		
	$6,250–9,350	271	1,202		
	$9,350–12,500	189	968		
	$12,500–18,750	382	1,112		
	$18,750–25,000	324	574		
	$25,000–31,250	148	339		
	$31,250–46,850	135	294		
	$46,850 and above	119	157		

*$p < .05$. **$p<.01$.***$p < .001$

Table 6: Relationship between participants' demographics and using the Internet for learning

Demographics		Frequency (N)		χ^2	Effect size (Cramer's V)
		Yes	No		
Gender	Male	2,128	2,682	16.69***	0.041
	Female	2,086	3,104		
Age	16–24	300	182	1216.58***	0.349
	25–34	1,275	740		
	35–44	1,258	1,201		
	45–54	926	1677		
	55–64	399	1147		
	65 and above	56	839		
Educational background	Elementary school and less	23	1147	2214.70***	0.471
	Junior high school	115	921		
	Senior high (vocational) school	1,144	2,065		
	Junior college	959	703		
	College	1,544	841		
	Postgraduate	429	109		
Annual income (in U.S. dollar)	No income	530	1,817	1015.90***	0.319
	Less than $6,250	400	1,038		
	$6,250–9,350	590	883		
	$9,350–12,500	519	638		
	$12,500–18,750	847	647		
	$18,750–25,000	572	326		
	$25,000–31,250	313	174		
	$31,250–46,850	272	157		
	$46,850 and above	171	106		

*$p < .05$. **$p<.01$.***$p < .001$

Discussion

The purpose of this study was to identify the major patterns of Taiwanese adults' participation in informal educational activities and to explore the relationships of participants' informal learning preferences and their demographics. The analyses considered merely those responses on informal learning participation from the survey. Although this survey only asked respondents about their engagement in five types of informal learning activities, the results showed that the rate of informal learning participation was satisfactory when comparing it with the rate (30.96%, ages between 16 and 64) of formal and non-formal learning participation in Taiwan (Taiwan Ministry of Education 2009). From results in similar surveys conducted in other Asian countries and regions, it is quite encouraging to learn that the participation rate of formal and non-formal education/training in Taiwan is higher than two other tiger economies—Hong Kong (25.1% in 2007) and Korea (29.8% in 2007) (Taiwan Ministry of Education 2009; Yang 2008).

As anticipated, the majority of Taiwanese adults acquiring knowledge informally did so through watching TV programs, because Taiwan has more than 100 TV channels, according to an investigation conducted by a Taiwan television database (nd). In addition, the findings of respondents' participation in informal learning were somewhat similar to the results of the 2005 NHES in the United States (NCES 2006), in which it was discovered that 28% of Americans used computers and the Internet for learning, 47% used books, manuals, audio-video and TV for learning, 53% read how-to magazines, 20% had joined book clubs or groups, and 23% attended conventions and conferences. Reading books/magazines and watching TV programs appears to be the most popular ways for adults to engage in informal educational activities. TV is a perfect platform, particularly the public television channel, to promote informal learning for adults, and more investments from public sectors in both hardware and software might

receive positive outcomes. Rubenson and Desjardins (2009) indicated that public financial support could be critical for overcoming barriers of formal/non-formal learning participation. The same holds true in informal learning environments. Smith and Smith (2008: 69) noted that 'informal learning may eventually gravitate toward formal education and training programs'. At the time of this study, the Department of Social Education of Taiwan's Ministry of Education launched a grant program to sponsor broadcasting companies and book publishers to produce lifelong learning series and materials for adults.

Examining the relationships between respondents' demographics and their participation in informal learning activities also revealed some interesting points. There were statistically significant relationships existing between the four demographic characteristics (gender, age, educational background and annual income) and participation in some types of informal learning activities. The results are partially in accordance with the findings by Smith and Smith (2008), in which they discovered that three demographic variables (gender, income and age) of American adults and their participation in informal learning activities had significant associations. In Smith and Smith's (2008) study, the effect sizes of the relationship between gender and informal learning activities were small (all < 0.1). This study also found that gender had a weak relationship with informal learning. This implies that males and females might equally value the importance of learning in order to keep up with the ever-changing world. However, female adults tended to enjoy participating in informal learning activities more than their counterparts. This finding is consistent with the composition of the learning population in Taiwan's community universities. Macleod and Lambe (2007), based on their comparative study in the UK, showed that the proportion of females using home-based learning was higher than males because females were too busy to find time to learn in formal settings. Again, this discovery suggests that more high quality informal learning

opportunities should be provided via different formats. It is also important to find strategies to help male adults to engage in learning through informal and even non-formal approaches.

The relationship between respondents' age and their participation in informal learning activities showed significant associations. Older adults, particularly the groups of 35–44 and 45–54 years, were more likely to participate in informal learning than younger adults and seniors. This finding is similar to Smith and Smith's (2008) finding. In their research, they found that older adults liked to read books, watch TV, and attend conferences or conventions because older adults 'have more opportunities along with greater responsibilities, and these opportunities may include participation in informal learning' (p.72). Educational background was also a significant factor affecting informal learning participation in this research. Adults who had higher academic degrees, especially those with college and postgraduate degrees, showed higher participation rates in all types of informal learning activities. This finding, again, is consistent with the findings of Smith and Smith (2008). This implies that supports and resources should be focused on those with the least educational attainment not just in institutional learning environments but also in informal learning settings. The factor of annual income appeared to be the strongest attractor in the relationships of participants' demographics and their preferences for informal learning activities. High-income adults, especially those with annual incomes at $46,850 and above, tended to enjoy participating in informal learning activities including reading books, listening to didactic radio programs and attending educational trips. Rubenson and Desjardins (2009) suggest that a welfare system focusing more on the learning gap might be effective to reduce the barrier of learning participation between wealthy and low-income adults.

Workplace learning has become a research focus in recent years, particularly in studying less formal aspects of job-related learning

(Livingstone & Stowe 2007). In this study, participants reported their preferred method of informal learning in their workplace. Interpersonal communications and sharing were identified as the most popular approaches, followed by locating proper information on the Internet. Livingstone and Stowe (2007) articulated that the Internet has gradually enhanced the accessibility of relevant adult training courses in the workplace. This implies that web platforms, in addition to providing formal training courses, has the capability to provide informal learning opportunities for workers to share and exchange ideas. Thus, while designing a web portal for employees, an informal learning space, such as a discussion forum and knowledge base, should be provided.

Conclusion

The contribution of informal learning to lifelong learning is significant (Merriam et al. 2007), but 'informal learning often has been seen as formal learning's poor cousin' (Golding, Brown & Foley 2009: 34). Further insight regarding informal learning research and participation would increase its recognition in the future. In this study, we explored the patterns and relationships of Taiwanese adults' participation in informal learning activities by analysing data from the national survey database. There is a trend to incorporate investigations of informal learning participation in the national adult education surveys, such as the NHES in the United States and the MPHS in Australia. It is expected that other nations will include questions on informal learning participation in their upcoming adult education surveys. The results of the survey data can provide valuable information for adult educators, adult education providers and researchers to better understand the situation and barriers of adults' participation in informal learning activities.

The analyses and arguments from this research provide a snapshot in discussing the influence of informal learning in adult education

development in Taiwan based on the 2008 national survey. This study expands the value of the adult education survey database by further in-depth analysis of the relationships related to participation in informal learning. Smith and Smith (2008) indicated that finding a balance between formal/non-formal and informal learning is essential in maintaining a productive learning environment. Thus, further research in this area, particularly in secondary data analysis of national surveys and comparative studies across countries, is certainly merited.

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