

*Original Research Article*

# Classroom Climate, Instrumental Help-Seeking Behaviour, and Learner Loyalty among Continuing Education Students

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Abstract

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This study examines instrumental help-seeking behaviour among adult continuing education students. A questionnaire concerning adult learning was administered to 785 students, and descriptive statistics and hierarchical linear modelling were used to analyze the data. The results revealed that instrumental help-seeking behaviour and classroom climate positively predicted learner loyalty, and that instrumental help-seeking behaviours played an intermediary role in the relationship between classroom climate and learner loyalty. Since instrumental help-seeking behaviour mediates the relationship between classroom climate and learner loyalty, schools should aim to promote instrumental help-seeking behaviours among students, while also striving to create a classroom climate conducive to fostering high levels of learner loyalty. Future research should be conducted to identify strategies that might influence learners' instrumental help-seeking behaviours.

**Keywords:** Classroom climate, Continuing education students, Instrumental help-seeking behaviour, Learner loyalty

## INTRODUCTION

Taiwan is home to 162 universities (Ministry of Education of Republic of China, Taiwan, 2013), although their expansion has been limited due to declining birthrates and under-enrolment. In response to this, the Ministry of Education has encouraged institutions of higher education to increase their enrolment of adult learners; accordingly, competitiveness in the republic's adult education market should increase as "past students" become "future students" (Aslanian, 2005). Presently, only 31% of Taiwanese citizens under the age of 64 have participated in adult education, a number that is well below the European Union's average of 42% (Wu et al., 2009).

In addition to implementing policies designed to increase participation in adult learning, attempts should also be made to understand and address their needs. Prior studies examining help-seeking behaviour have primarily focused on medical or health-related topics

rather than learning context (Nelson-Le Gall, 1986). According to Newman (2002), instrumental help-seeking behaviour entails asking for assistance in order to learn independently, not merely to obtain a correct answer. Additionally, individual instrumental help-seeking behaviour is affected by intrinsic motivation (Chan, 2013), which promotes mastery learning and completes a task independently during the learning process. Since instrumental help-seeking behaviour as adaptive characteristics, it plays a significant role in adult learning, and is therefore a variable worthy of investigation (Nelson-Le Gall, 1981).

Student loyalty is essential to the survival of institutions of higher education (Helgesen and Nasset, 2007). However, adult learners vary greatly in their age and background, and an unaccommodating classroom could negatively affect their learning experience. For example, a 60-year old learner made the following state-

ment to a researcher in 2011:

I participated in a university course in which my classmates were about twenty years older than me. We could not discuss the same topics. I felt isolated in the classroom, and group discussions were difficult. I was not sure how to solve this problem, and I subsequently quit attending the class.

As the above quote demonstrates, an unfit classroom atmosphere is likely to shape one's future attitudes toward learning, and subsequently their perception of continuing education and loyalty to an institution. Moreover, there is likely a relationship between instrumental help-seeking behaviour and learner loyalty. Therefore, a proper understanding of instrumental help-seeking behaviours among adult learners can assist institutions in error and cost reduction, as well as in the implementation of preventive remedial measures (Thacker & Stoner, 2012).

## Literature Review

### Help-Seeking

Help-seeking is an effective strategy employed by self-regulated learners, thus allowing them to succeed in a wide range of contexts (White, 2011). Pillai (2010) investigated the effect of cognitive evaluation on college learners' help-seeking behaviours. Some students in the study expressed concern that their peers would look down upon them for seeking help; others cited a lack of available resources or feared that they would develop a reliance on the assistance provided. Additionally, some of the students pointed out that they would reduce or change the criteria to regard as the problem-solving strategy. The feedback received following help-seeking behaviours can ultimately affect a learner's future behaviour. Indeed, when appropriately utilized help-seeking enables students to obtain valuable assistance from parents, peers, teachers, and other sources.

There are a number of complex issues involved in help-seeking; however, in examining them one must assess (a) who is seeking help, (b) the role of their social network, and (c) the outcome of adopting help-seeking behaviour (Gourash, 1978). Additionally, students are frequently, whether directly or indirectly, affected by their social and cultural environments; hence, the ability to learn is not entirely based on an individual's personal decisions (Nelson-Le Gall, 1986). According to Nelson-Le Gall (1981), help-seeking behaviour entails the adoption of a viable strategy toward proactively solving a learning problem. Newman (1994) expanded on Nelson-Le Gall's description of the help-seeking process and outlined a series of steps wherein the learner becomes aware that she/he needs help, decides to seek help, identifies potential help, uses strategies to elicit help, and evaluates the help-seeking episode.

Instrumental help-seeking behaviour is greatly beneficial to learning outcomes: it reflects intrinsic motivation, and entails acquiring and increasing one's understanding and mastery of academic materials. Conversely, executive help-seeking reflects extrinsic motivation and prioritizes outcomes (i.e., grades), wherein one's focus is to acquire a correct answer rather than methods that would enable him or her to solve problems independently (Nelson-Le Gall, 1981; Wimer and Levant, 2011).

Instrumental help-seeking behaviour in the present study refers to a process in which adult learners refer to teachers, classmates, books, or problem solving strategies when they encounter difficulties in learning. This behaviour subsequently reduces pressure and causes students to anticipate rather than fear difficult problems.

### Classroom Climate, Instrumental Help-Seeking Behaviour, and Learner Loyalty

Due to the varied backgrounds and ages of adult learners, their presence in a classroom may create a unique atmosphere when compared to those composed of students within a more traditional age range. Consequently, classroom climate is a variable explored in this study in an attempt to understand its effect on learner loyalty. Learner loyalty entails higher learner retention and less student "churn," or turnover (Helgesen and Nettet, 2007). Moreover, Lin (2010) asserts that there is a positive correlation between loyalty and affective commitment and social norms: individuals with greater loyalty are more likely to continue participating in educational activities, and also recommend the institution to others.

Although few studies exist concerning learner loyalty, some research has confirmed a positive relationship between the use of help-seeking behaviours and improved learning outcomes, as well as an increased likelihood to continue pursuing education (Renkl and Atkinson, 2002; Wood and Wood, 1999). Accordingly, the first hypothesis is that classroom climate is a relatively accurate predictor of learner loyalty among continuing education students. The second hypothesis is that continuing education students who implement instrumental help-seeking behaviours with greater frequency are more likely to possess learner loyalty.

Interpersonal relationships, such as those between students and their teacher, shape the climate of a classroom. As its name implies, the individual classroom climate involves each student's independent perception of the class atmosphere, which inadvertently affects his/her actions; in contrast, the collective classroom climate entails student perceptions and behaviours as a whole (Kenny, 2004; Mainhard et al., 2011). The situation of individual students to interact within the

collective consciousness of classes is to assess an important indicator of collective classroom climate, the indicators of the impact on the learning environment of students' perception and action, its importance deserves to be concerned about (Lüdtke et al., 2009). In the present study, classroom climate is a group level variable that is aggregated from individual scores.

According to Wu et al.(2009), more than eighty percent of Taiwanese adult learners attend traditional classroom (face-to-face instruction)for study. Additionally, as Mainhard, Brekelmans, Brok, and Wubbels (2011) have noted, prior research has indicated that classroom climates are initially dynamic, as a balance between teacher-student interaction is established and finally stabilized; the researchers further point out that this process and its nature has not been confirmed. Nevertheless, Mainhard et al. did find a substantial difference in teacher-student interaction during the first month of classes, and also a unique atmosphere in each classroom.

In discussing the classroom climate, we are referring to how social interactions affect the behaviour of students. Thacker and Stoner (2012) found that positive social interactions led to improved help-seeking behaviour among subordinates. Additionally, Chan (2013) asserted that collective culture is a factor at the macro level in a task-oriented learning environment, and that it encourages learners to partake in help-seeking behaviours. Ryan and Pintrich (1997) also discovered a relationship between a positive classroom culture and improved help-seeking behaviour among students, wherein task-oriented environments prompted students to adopt instrumental help-seeking behaviours. However, in classrooms where students possess similar ability, learners often seek administrative assistance (Ryan and Pintrich, 1997) or avoid help-seeking behaviour altogether (Nadler et al., 2001). Hence, our third hypothesis is that classroom climate is a predictor of instrumental help-seeking behaviours among continuing education students.

Although prior studies have partially confirmed the relationship between classroom climate, instrumental help-seeking behaviour, and learner loyalty, none to date has attempted to identify their mediating effects. Owing to the fact that instrumental help-seeking behaviour plays an important role in individual learner behaviours, the mediating effects of these factors merit further investigation. Thus, our fourth hypothesis is that instrumental help-seeking behaviour functions as a mediator between classroom climate and learner loyalty.

## Method

### Participants

In this study, cluster sampling was used and class was

the sampling unit. One-hundred-and-ninety adult learners attending continuing education programs at four schools in Kaohsiung, Taiwan were surveyed for the pilot study; 23respondents were later eliminated from the sample due to incomplete or invalid responses. Thus, 87.89% of the returned questionnaires were deemed valid. As for the formal study, 1025 adult learners from 62 classes were recruited to participate; 785 valid questionnaires were returned from a total of 58 classes. Descriptive statistics are provided in [Table 1](#).

### Instruments

Three survey instruments were used in this study: the classroom climate scale (CCS), instrumental help-seeking behaviour scale (IHBS), and learner loyalty scale (LLS). Definitions for each of these are provided in [Table 2](#).

### CCS

Twenty items were initially selected for this questionnaire. Respondents were asked to select an answer that most accurately described their respective classroom climates on a 6-point Likert scale wherein 1 = *strongly disagree* and 6 = *strongly agree*. Analysis of the items revealed a significant difference in scores between the bottom twenty-seventh and top seventy-third percentiles. After calculating the Pearson product-moment correlation coefficient between individual item scores and overall scores, three items were eliminated as they exhibited a Pearson  $r$  of less than .30. Using factor analysis, classroom climates were divided into three main categories with 17 total items: affiliation (6 items), teacher support (5 items), and involvement (6 items). The Cronbach's coefficient alpha was calculated to determine reliability among the three subscales, which ranged between .88 and .90, with the scale's overall reliability being .94.

### IHBS

Twenty items were selected for this questionnaire. Respondents were asked to select an answer that most accurately described their instrumental help-seeking behaviours on a 6-point Likert scale wherein 1 = *strongly disagree* and 6 = *strongly agree*. Analysis of the items revealed a significant difference in scores between the bottom twenty-seventh and top seventy-third percentiles. Calculating the Pearson product-moment correlation coefficient between individual item scores and overall scores revealed a Pearson  $r$  of more than .30 for all items. The overall reliability of the IHBS was .90.

**Table 1.** Demographic Information

Basic Information		Item	Number	Percentage (%)
Participants				
<b>Gender</b>		Male	369	47.0
		Female	416	53.0
<b>Age</b>		Minimum = 18		
		Maximum = 62		
		Mean = 28.48		
		Standard Deviation = 9.55		
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Class				
<b>Teacher Gender</b>	Male		48	82.8
		Female	10	17.2
<b>Class Size</b>		Minimum = 9		
		Maximum = 60		
		Mean = 34.28		
		Standard Deviation = 15.95		
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<b>Institution Location</b>				
		Chiayi County	140	17.8
		Tainan City	160	20.4
		Kaohsiung City	329	41.9
		Pingtung County	156	19.9

**Table 2.** Research Variable Definitions

Scale	Definition	Source(s)
CCS	Instrumental help seeking focuses on obtaining the information or skills necessary to solve a particular problem, and involves mastery-oriented help seeking.	Lin (2002); Darkenwald and Valentine (1986); Langenbach and Aagaard (1990)
IHBS	Classroom climate is referred to as the learning environment and it can function either as an aid or as barrier to learning.	Nelson-Le Gall (1981), Arbreton (1998), Peng (2004)
LLS	Learner loyalty entails the overall performance of students, including their attitudes and behaviours in relation to a specific course or institution.	Chen (2006), Helgesen and Nasset (2007)

## LLS

Twelve items were selected for this questionnaire. Respondents were asked to select an answer that most accurately described their beliefs and attitudes concerning learner loyalty on a 6-point Likert scale wherein 1 = *strongly disagree* and 6 = *strongly agree*. Analysis of the items revealed a significant difference in scores between the bottom twenty-seventh and top seventy-third percentiles. Calculating the Pearson product-moment correlation coefficient between individual item scores and overall scores revealed a Pearson *r* of more than .30 for all items. Using factor analysis, learner loyalty was divided into two main categories with 12 total items: behavioural loyalty (6 items) and affective loyalty (6 items). The Cronbach's coefficient alpha was calculated to determine reliability between the two subscales, which ranged between .85 and .94 with the scale's overall reliability being .95.

## Data Analysis

This study adopted hierarchical linear modelling (HLM) in its analysis and used a null model, random coefficients regression model, and a one-way ANCOVA with random effects. Additionally, four-steps were used to test the multi-level mediation effect, a decision based on prior studies such as those conducted by Baron and Kenny (1986), Krull and MacKinnon (1999), and Wen and Chiou (2009). To improve the explanatory intercept, independent variables in the model used grand centered scores (Hofmann and Gavin, 1998; Mathieu and Taylor, 2007).

**Table 3.** Descriptive Statistics, Between-Group Variations, and Relationships

Level	Variable	Descriptive Statistics			Between-of Variation		Correlation Coefficient	
		<i>N</i>	<i>M</i>	<i>SD</i>	$\chi^2$	ICC <sup>a</sup>	Classroom Climate	Instrumental Help Seeking
Aggregate	Classroom Climate	58	5.03	0.46				
Individual	Instrumental Help Seeking Behavior	785	4.78	0.75	186.25 ***	.144	.52 ***	
	Learner Loyalty	785	4.46	0.82	209.71 ***	.169	.67 ***	.56 ***

<sup>a</sup> Calculated with null model using individual-level variables.

\*\*\*  $p < .001$ .

**Table 4.** HLM Statistical Analysis

	Null Model	Step 1	Multi-Level Intermediary Analysis Steps	Step 3	Step 4
	Learner Loyalty	Learner Loyalty	Step 2 Dependent Variable Instrumental Help Seeking	Learner Loyalty	Learner Loyalty
Fixed Effect Intercept ( $\gamma_{00}$ )	53.46 ***	53.47 ***	23.91 ***	53.47 ***	53.47 ***
Classroom Climate ( $\gamma_{01}^a$ )		0.21 *			
Classroom Climate ( $\gamma_{01}^b$ )			0.07 *		
Instrumental Help Seeking Behavior ( $\gamma_{10}^a$ )				1.38 ***	
Classroom Climate ( $\gamma_{01}^c$ )					0.11
Instrumental Help Seeking Behavior ( $\gamma_{10}^b$ )					1.37 ***
Random Effect Within-of Variation ( $\sigma^2$ )	80.03	79.99	11.91	58.64	60.04
Between-of Variation ( $\tau_{00}$ )	16.26 ***	14.13 ***	1.75 ***	6.29 ***	5.70 ***
( $\tau_{11}$ )				-0.08	
Deviance	5741.55	5736.01	4238.11	5489.19	5493.73

\*  $p < .05$ . \*\*\*  $p < .001$ .

## RESULTS

### Instrumental Help-Seeking Behaviour, Classroom Climate, and Learner Loyalty

The means and standard deviations for instrumental help-seeking behaviours, classroom climate, and learner loyalty are provided in Table 3. Regarding items within each scale, the means for instrumental help-seeking behaviours, learner loyalty, and classroom climate were 4.78 ( $SD = 0.75$ ), 4.46 ( $SD = 0.82$ ), and 5.03 ( $SD = 0.46$ ) respectively. These factors were subsequently analyzed using HLM to determine their relationship with learner loyalty. Null models were estimated first to obtain within- and between-class variances; the between-class variances were 16.9% for the learner loyalty scores. This result indicates that variation in learner loyalty is high among continuing education learners in southern Taiwan. Learner loyalty and instrumental help-seeking behaviour were individual-level dependent variables. Thus, the HLM's null model was employed to separate variance in learner loyalty and instrumental help-seeking behaviour into within- and between-class values.

Variation in learner loyalty was significant ( $\chi^2 = 209.71$ ,  $df = 57$ ,  $p < .001$ ), as was variation in instrumental help-seeking behaviour ( $\chi^2 = 186.25$ ,  $df = 57$ ,  $p < .001$ ). Based on Cohen's (1988) standards of intraclass correlation coefficient ( $\rho \geq 0.138$ ), the coefficients were quite high, and therefore it was necessary to use HLM in their analysis. The correlation coefficients between the variables were significant ( $p < .001$ ), and all were above .52.

### Classroom Climate and Instrumental Help-Seeking Behavior as Predictors of Learner Loyalty

As shown in Table 4, Step 1 of the multi-level mediating effects analysis confirmed that classroom climate is a predictor of learner loyalty ( $\gamma_{01}^a = 0.21$ ,  $t [56] = 2.70$ ,  $p < .05$ ), thus our first hypothesis was supported. Moreover, the null model analysis revealed a within- ( $\sigma^2$ ) and between-of ( $\tau_{00}$ ) variation of 80.03 and 16.26 respectively, a value that differs significantly from 0 ( $\chi^2 = 209.71$ ,  $df = 57$ ,  $p < .001$ ) and hence indicates variation among respondents in learner loyalty. Step 3 of the multi-level mediating effects analysis revealed a positive correlation between instrumental help-seeking behaviour and learner loyalty ( $\gamma_{10}^a = 1.38$ ,  $t [57] = 14.74$ ,  $p < .001$ ), thus confirming our second hypothesis.

### Mediating Effects of Instrumental Help-Seeking Behavior on the Relationship Between Classroom Climate and Learner Loyalty

Based on prior research (i.e., Baron and Kenny, 1986;

Krull and MacKinnon, 1999; Wen and Chiou, 2009), four steps were used to test mediating effects in an attempt to understand instrumental help-seeking behaviour's effect on the relationship between classroom climate and learner loyalty. Step 1 revealed that classroom climate was a predictor of learner loyalty ( $\gamma_{01}^a = 0.21$ ,  $t [56] = 2.70$ ,  $p < .05$ ). Step 2 confirmed that classroom climate was a predictor of instrumental help-seeking behaviour ( $\gamma_{01}^b = 0.07$ ,  $t [56] = 2.55$ ,  $p < .05$ ), thereby supporting our third hypothesis. Step 3 verified that instrumental help-seeking behaviour was a predictor of learner loyalty ( $\gamma_{10}^a = 1.38$ ,  $t [57] = 14.74$ ,  $p < .001$ ). Finally, Step 4 demonstrated that instrumental help-seeking behaviour was a predictor of learner loyalty ( $\gamma_{10}^b = 1.37$ ,  $t [782] = 17.22$ ,  $p < .001$ ), although classroom climate was not ( $\gamma_{01}^c = 0.11$ ,  $t [56] = 1.95$ ,  $p > .05$ ).

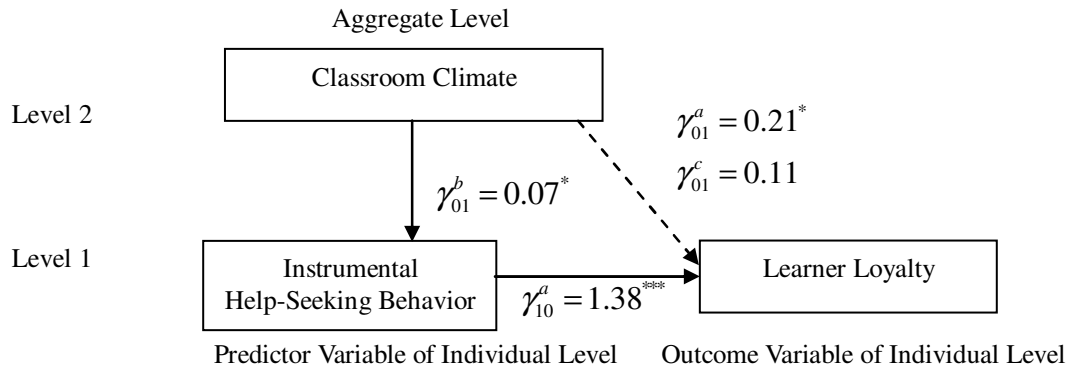
The aforementioned steps confirmed that the estimated values  $\gamma_{10}^b$  and  $\gamma_{01}^c$  were significant and insignificant respectively and also indicated instrumental help-seeking behaviour's role as a mediator between classroom climate and learner loyalty. Moreover, the decline in range between  $\gamma_{01}^c$  and  $\gamma_{01}^a$  (.10) highlighted classroom climate's indirect effect as a predictor of learner loyalty, therefore supporting the study's fourth hypothesis.

## DISCUSSION

### The Tendency of High Instrumental Help-Seeking Behaviour and Classroom Climate to Produce Positive Learner Loyalty

The results of this study verified classroom climate's status as a predictor of learner loyalty, a finding that is consistent Lin (2010). Instrumental help-seeking behaviour was also identified as a predictor of learner loyalty, which corroborates the findings of Wood (1999) as well as Renkl and Atkinson (2002). Additionally, classroom climate proved to be a predictor of instrumental help-seeking behaviours, a finding consistent with Ryan and Pintrich's (1997) research.

In Taiwan, 44.89% of adult learners seek to further their careers, while 40.05% are driven by an intrinsic desire to gain knowledge (Wu et al., 2009). According to a report published by the Organisation for Economic Co-operation and Development (2014), more than 60% of adults in the Netherlands, Denmark, Finland, Norway, and Sweden participate in continuing education; in contrast, no more than a third of Taiwanese adults are active in continuing education (Wu et al., 2009). Furthermore, in countries where a significant number of adults express a desire to continue their educations, higher levels of adult students exist (Organisation for Economic Co-operation and Development, 2014). Therefore, in promoting adult education it is imperative to create atmospheres conducive to learning while also



**Figure 1.** Model of cross-level mediation analysis

**Note:** Dashes indicate independent variables that cannot accurately predict dependent variables.

\*  $p < .05$ . \*\*\*  $p < .001$ .

providing adequate learning resources (Jarvis, 1995; Knowles, 1989).

### Optimal Strategies for Coping with Instrumental Help-Seeking Behaviour among Learners

Instrumental help-seeking behaviour played a key role in classroom climate and learner loyalty. The results of the cross-level mediation analysis are summarized in Figure 1. The importance of this study lies in its contribution to understanding the relationship between classroom climate and instrumental help-seeking behaviour as predictors of learner loyalty. Instrumental help-seeking behaviour functions as an intermediary to affect the relationship between classroom climate and learner loyalty; in other words, learners are more likely to employ instrumental help-seeking behaviour strategies in healthy classroom climates. When individuals seek instrumental help, it is primarily to complete a goal or task. Although a positive classroom climate can encourage learners and inspire them to adopt behaviours conducive to mastery learning, many other factors affect their decision to do so, such as their beliefs and intentions. According to Bandura's (1978) theory of reciprocal determinism, the influence of behaviour, personal factors (e.g., cognitive, affective, and biological events), and environment are interrelated. Indeed, the cross-level mediation analysis conducted in the present study demonstrated that the promotion of instrumental help-seeking behaviours could lead to greater learner loyalty.

As most human behaviour is purposive, it is consequently regulated by forethought; through the exercise of forethought and self-regulative standards, humans are able to motivate themselves and plan their actions anticipatorily (Bandura, 1989). Instrumental help-seeking behaviour is a more adaptive form of help-seeking behaviour, wherein help is sought in order to locate clues that may assist one in solving a problem,

which consequently results in increased mastery learning (Nelson-Le Gall, 1981; Wimer and Levant, 2011).

Instrumental help-seeking behaviours are indicative of a need to know. Studies concerning the need for cognition emerged quite early in the history of personality and social psychology, among which Cohen, Stotland, and Wolfe (1955) and Cohen (1957) were the most notable. According to Cohen et al. (1955) the need for cognition entails, "a need to structure relevant situations in meaningful, integrated ways. It is a need to understand and make reasonable the experiential world" (p. 291). Cacioppo and Petty (1982) classified participants according to their need for cognition; the results revealed that individuals with a high need for cognition enjoyed completing complex tasks, whereas those with a low need for cognition preferred simple tasks. Therefore, educators should be mindful of the varying levels of cognitive demand among adult learners, and employ appropriate teaching strategies to ensure that students successfully complete a given learning task.

Cohen (1957) hypothesized that outlining a problem and its possible solutions could elicit a more significant attitude change than by merely presenting a problem with its solution, and that this effect would be attenuated among individuals possessing a high need for cognition. According to Cacioppo and Petty (1982), this is because learners who possess a high need for cognition are, at least theoretically, more likely to contemplate the communication; in contrast, learners with a low need for cognition must be motivated to reflect on the communication through an explicit explanation of the problem first. This is consistent with Nelson-LeGall's (1981) help-seeking process model. Therefore, when learners grasp the seriousness of a problem, they are likely to develop greater motivation, and subsequently engage in help-seeking behaviours.

Educators of adult learners should encourage their students to solve problems independently, and provide them with appropriate channels of communication to

assist them in doing so. In a report concerning the progress of education and training in the United Kingdom, the National Advisory Council for Education and Training Targets (1997) emphasized the importance of providing appropriate counselling to learners of all ages. Moreover, Fryer (1997) noted that the provisioning of up-to-date, accessible, and impartial information and advice is essential for a strategy of lifelong learning to be successful. Indeed, it is imperative to recognize and accommodate differences in age and background in adult classes; in turn, this should motivate learners to partake in instrumental help-seeking behaviours. To accomplish this, appropriate intervention scaffolding strategies should be employed.

## CONCLUSION

This study attempted to gauge the relationship between class atmosphere, instrumental help-seeking behaviour, and learner loyalty among adult learners enrolled in continuing education courses at institutions in Southern Taiwan. A questionnaire utilizing stratified cluster sampling was distributed to 58 classes, and the results of 785 questionnaires were analyzed. The results revealed that instrumental help-seeking behaviour was predictor of learner loyalty, and that it also functioned as a mediator between classroom climate and learner loyalty. Moreover, a positive correlation was found between active instrumental help-seeking behaviour and learner loyalty.

Future studies should investigate the creation of counselling resources that could be distributed to institutions engaged in adult education. These resources might be provided in the form of a guidebook designed to promote the use of problem-solving strategies among learners who seek instrumental help. Regarding the study's implications for teaching, instructors ought to be mindful of variations in age and background among adult learners, and in doing so consider how to increase the motivation of learners based on their cognitive needs. This can be accomplished by providing timely and appropriate scaffolding to assist students in individual mastery learning, which should increase their likelihood to continue learning in the future.

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