



## A survey on online teaching preference among pre-service teachers in Malaysia : Andragogy vs pedagogy

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This paper reports on a research project that investigated the pedagogical and/or andragogical orientation preferred by pre-service teachers in Malaysia for online learning. To gather the data, questionnaires were distributed among 433 pre-service teachers in three educational institutions in Malaysia and descriptive analyses have been conducted. The findings showed that majority of the pre-service teachers in this study stay under Stage 2 in the four stages of learning development. This means that the respondents had high preference for pedagogical as well as andragogical learning orientations. The findings have implications for educators involved in designing online learning applications. They have to consider such student preference when planning teaching and learning activities.

### Introduction

Internet or the “web” (world wide web) has been widely used as a source of information and increasingly used as a learning tool to support formal programmes. Currently, it has becoming increasingly popular in higher education including Malaysia, as a means of delivering online learning programmes or Web-based learning (WBL). Both students and instructors gain significant benefits from Web-based learning because of its potential that offers huge opportunities for learning and access to a vast amount of knowledge and information.

The first step in designing a web based course is to identify learners’ needs and whether the learners are to be considered as part of a group or as individual learners. The web can be a useful tool for bringing isolated learners together in “virtual” groups—for example, through a discussion forum (Judy McKimm *et. al*, 2003).

Even though the World Wide Web provides new opportunities to deliver instruction over the Internet among university students, some researchers have expressed concerns about its effectiveness. Some educators attempt to create Web pages from texts and lecture notes. Although the presentation will be interesting with the incorporation of sound, graphics, animation and video (multimedia elements), the students are not given sufficient instruction on how to think critically about the presented content.

Newer technologies such as computers and video conferencing are not necessarily better (or worse) for teaching or learning than older technologies . . . they are just different . . . The choice of technology should be driven by the needs of the learners and the context in which we are working, not by its novelty. (Bates AW, 1995)

Moreover, the situation becomes more difficult when appropriate teaching approaches suitable for university students are absent. According to Fidishun (2000), university lecturers need to focus on learning theory in the design of instructional technology so that they can construct lessons that are not only technology-effective but that are significant from the learner’s perspective.

Learning orientation which considers the impact of emotions, intentions, will to success, and social factors on learning are considered useful when working with online students. This is because, each individual learn differently (Diane, 2006).

The learning orientation that web-based developers might consider in designing web-based learning for university students is Andragogy. It is the art and science of helping adults to learn (Knowles *et. al*, 1998) including university’s students where Knowles (1980) defined adulthood as “the point at which individuals perceive themselves to be essentially self-directing”.

In an andragogical orientation, learners freely choose their learning goals and make independent decisions about what, how and when they want to learn. It is based on assumptions that learners are self-directed, have the capacity to make decisions for them, and have a range of life experiences that impact on their learning (Knowles, 1990; Choy & Delahaye, 2003).

Most Malaysian university students are 18 years old and above. Student Teachers in Malaysia's Educational Institution mostly enter directly from high school. However, there are some who already gained a certificate or diploma in various fields but wish to further their study by gaining a teacher's certificate. These create a range of ages in the educational institution from 18 to more than 40 years old. Furthermore, the final year Student Teachers will be at least 22 years old which can be considered as adult (Ibrahim, 1997).

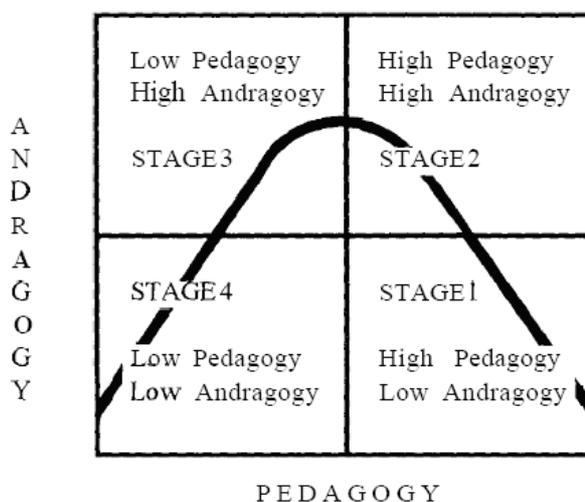
Therefore, an appropriate learning approach such as Andragogy should be considered in their teaching and learning, including web-based instruction (Gibbons & Wentworth, 2001). Andragogy describes the instructional approach based on self-directed learning theory while Pedagogy describes the traditional instructional approach based on teacher-directed learning theory (Knowles, 1980). The sixth learner's assumptive differences between Pedagogy and Andragogy can be seen as follows. (See Table 1).

**Table 1: Differences between Andragogical and Pedagogical Assumptions**

Assumptions	Pedagogical Model	Andragogical Model
Learners Need to know	Learners need to know what the teacher tells them.	Learner need to know why something is important prior to learning it.
Learner's self concept	Learner has a dependent personality.	Learners are responsible for their own decisions. (Increasingly self-directed)
Role of the learner's experience	The learner's experience is of little worth. (To be built on more than used as a resource)	The learner's experience has great importance.
Readiness to learn.	Learners become ready to learn what the teacher requires. (Uniform by age-level & curriculum)	Learners become ready to learn when they see content as relevant to their lives.
Orientation to learning	Learners expect subject centered content.	Learners expect life centered content (Task- or problem-centered)
Motivation	Learners are motivated by external rewards and punishment	Learners are motivated primarily by internal forces (incentives curiosity)

Source: Knowles, M.S. (1998) *The Adult Learner*, Houston: Gulf Publishing & Knowles, M.S. (1992). Applying principles of adult learning in conference presentations. *Adult Learning*, 4(1), p. 12.

However, research conducted by Delahaye, Limerick, and Hearn (1994) found that learners could be two dimensional, utilizing both pedagogical and andragogical principles at the same time. Delahaye, Limerick, and Hearn (1994) had injected the finding of the orthogonal association between andragogy and pedagogy of their research into the work of Stuart and Holmes (1982). They formed a model of four stages of learning as shown in Figure 1.



**Figure 1: Four stages of learning (Source: Delahaye, Limerick, and Hearn, 1994)**

Stage 1 in the learning model represents the interpretation of pedagogy orientation model while Stage 3 describes that of andragogy learning orientation. Stages 2 may be visualized as a partial stage where student prefer pedagogical as well as andragogical orientations to study. Stage 4 may be best visualized as only involving the learner without the assistance of a teacher or facilitator (Choy and Delahaye , 2003)

The orthogonal relationship of pedagogy and andragogy grants an opportunity for new learning orientations and instructional strategies, especially in the online learning area. Research done by Choy and Delahaye (2002) among 266 young people aged 17 -24 years and enrolled in VET programs indicated that youth preferred pedagogical as well as andragogical practices. Choy and Delahaye (2003) also found that youths (aged 18 to 24) were surface learners with low readiness for self-directed learning but prefer a combination of structured and unstructured learning. They suggest youth learners are at Stage 2 in the four stages of learning development.

## Objectives

Consistent with the above statements, this article aimed to identify the andragogy or pedagogy orientation based on the Knowles (1998) six learners assumptions (Learners need to know, Learners Self Concept, Readiness to learn, Role of learners' experience, Learning Orientation and Motivation to learn) that suit pre-service teachers in Malaysian Educational Institutions.

## Sample

Participants were 433 pre-service teachers in their final year of studies in the academic year 2007-2008 in three educational institutions in Malaysia. Samples were chosen randomly by using the cluster sampling method. The size of each sample was determined using the Krejcie and Morgan (1970) sample size determination table. The majority of participants (68.5%) were female which reflected the demographic of the entire cohort of final-year pre-service teachers in Malaysia. Most participants were 21 to 25 years old (48.4%) followed by 25 – 30 years (38.4%) since most Malaysian students enter university by the age of 18 years and usually at the final year they will be at least 22 years old.

## Instrument

A survey using a 5 point scale (1= Strongly disagree, 2 = Disagree, 3= Medium Agreement, 4 = Agree, 5 = Strongly Agree) was used to collect data for this research. The instrument consists of 30 items to investigate the orientation of pedagogy or andragogy preferred by the pre-service teacher. Of the 30 items in the survey, 15 are andragogically oriented and 15 have a pedagogical orientation based on the six learner's assumptions by Knowles (1998); Learners need to know, Learners Self Concept, Readiness to learn, Role of learners' experience, Learning Orientation and Motivation to learn. The Cronbach Alpha for this instrument was 0.865. Refer Table 2 and 3 for the sample of items in the survey instrument

**Table 2: Some of the items under andragogical orientation**

Item Number	Question
10	I can draft the implementation process to produce a better assignment without waiting to be told how to do it
12	I prefer teaching and learning process that connect with my own prior knowledge/experiences

**Table 3: Some of the items under the pedagogical orientation**

Item Number	Question
11	I have less experience in comprehending this subject that leads me to depend entirely on the guidance from the lecturer
5	I would prefer if the lecturer could substantiate with sufficient examples during lessons.

## Findings

All questionnaires were collected directly by the researcher to ensure confidentiality. Data were then analyzed systematically by using SPSS software (Statistical Packages for Social Science) version 12.0. Pre-service Teacher preferences for each andragogy or pedagogy assumption were determined according to the Table 4 below:

**Table 4: Categorization of pre-service teacher preference level according to mean score**

Total Score	Pre-services teacher preference level
1.00 – 3.99	Low
4.00 – 5.00	High

### 1. Pedagogy aspect

The finding among the final year pre-services teachers shows that the means of five assumptions on their pedagogical principles are high (more than 4.00). The overall mean for the pedagogical aspect of the pre-service teacher preference was also high (mean = 4.3). The only assumption that gained a mean value of less than 4.00 was Learners Self Concept (mean = 3.7). Refer Table 5.

**Table 5: Descriptive statistics: Pedagogy aspect**

Assumption	Description	Mean	SD
1	Learners Need to Know – what to learn	4.4780	0.53492
2	Learners Self Concept – Dependent	3.7168	0.73440
3	Learners Experience – Built up during learning	4.0205	0.53595
4	Readiness to Learn – set by educators	4.4708	0.61191
5	Learning Orientation – Subject oriented	4.4324	0.61340
6	Extrinsic Motivation	4.5643	0.58812
	<b>Overall Mean</b>	<b>4.3008</b>	<b>0.38686</b>

Self concept assumption for student under the pedagogical orientation state that student is dependent learners. However, the finding shows that the Pedagogical Self Concept among the final year pre-service teachers is low. This means that their self concept had progressed to become self-directed learners.

Other Pedagogical assumptions based on these findings are high. These mean that the final year pre-services teacher still believe that their lecturers knew best which knowledge should be acquired. They need to gain a new experience, learning is a priority, the assessment set by the lecturers should just involve what has been learned and high grades will assure them of a secure job.

### 2. Andragogy aspect

The finding among the final year pre-services teachers' shows that the means of all five assumptions on their andragogical principles are also high with mean more than 4.00. Learners Self Concept is the only assumption that gained a mean value of less than 4.00 (mean = 3.73). The overall mean for the andragogical aspect of the pre-service teacher preferences was 4.21. Refer Table 4.

**Table 4 : Descriptive statistics: Andragogy aspect**

Assumption	Description	Mean	SD
1	Learners Need to Know – why learning	4.3805	.50434
2	Learners Self Concept – Independent	3.7315	.58272
3	Learners Experience – Source of Learning	4.3148	.50748
4	Readiness to Learn – own interest	4.4708	.61191
5	Learning Orientation – Task Oriented	4.3403	.56158
6	Intrinsic Motivation	4.5643	.58812
	<b>Overall Mean</b>	<b>4.2122</b>	<b>.37965</b>

This shows that the final year pre-service teachers self concept for self-directed learning are still low. However, they show a high preference to understand why they need to learn any knowledge. They want their prior experience to be acknowledged and become a source for the learning activities. Learning is focused on their real life situations, and they are intrinsically motivated to learn.

### 3. Pedagogy or andragogy

The findings from the final year pre-service teachers shows that majority of the pre-service teachers were in Stage 2 (71.4%) based on the model of four stages of learning development by Delahaye, Limerick, and Hearn (1994)

**Table 5 : Descriptive statistics: Four stages of learning development among pre-services teacher**

Stage	Description	Frequency	Percent (%)
1	High Pedagogy / Low Andragogy	60	13.90
2	High Pedagogy / High Andragogy	309	71.40
3	Low Pedagogy / High Andragogy	18	4.20
4	Low Pedagogy / Low Andragogy	46	10.60
	Total	433	100.00

Findings in Table 5 shows that majority of the final year pre-service teachers in this study had left Stage 1 and entered Stage 2. This finding is similar with Choy and Delahaye (2003) even though their age range is different. It shows that age is not the factor for the student to progress from pedagogy to andragogy.

Stuart and Holmes (1982) argued that maturity was a significant factor that influenced preferences for pedagogical and/or andragogical orientations. He proposed that certain elements of maturity like learner's prior knowledge, past learning experiences, expectation, and attitudes to the future learning events could be said to be deficient in young people, preventing them from fully appreciating an andragogical orientation.

In fact, student learning development stage might based on the amount of knowledge the learner already has in the subject area, the level of interest in and need to acquire the learning and the degree to which the learner is willing to accept the responsibility to learn as stated by Smith and Delahaye (1987). However, such considerations should be the focus of future research.

## Conclusions

As a conclusion, andragogical assumptions should be utilized in moderation based on the student preference. Some student preferred learning based on the pedagogical principals orientation while the others do not. Majority pre-service teachers as found in this research preferred a combination of pedagogical and andragogical orientation on their learning process.

As we know, nowadays learning in higher institutions requires independency among students especially for e-learning. However, finding from this research has shown that final year pre-services teacher can work independently since that their self-concept had progressed to the self-directed learning practice. However, they still need guidance from their lecturers. They also not yet prepared to accept the full responsibility of planning their own learning process. Therefore the integration of both learning orientation preferences should be considered in designing and developing an online learning application.

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