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Discrepancy Between Students' Perspectives And Their Experiences Of Andragogy In Professional Higher Education

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Abstract: There are different teaching methods practiced in all domains of education. Though we generally label any teaching method as pedagogy, its adult counterpart i.e. Andragogy is seen to have yielded quite good outcomes in higher education, particularly in professional courses. Here, the authors have employed two self-developed questionnaires, QASP and QASE based on Mallcom Knowles' six principles on 98 post-graduate students pursuing professional courses in various institutes in and around Kolkata. QASP tries to uncover their perspectives towards the principles while QASE tries to know about their experiences on the same dimensions. The results show that there is quite a difference between these two i.e. these students don't get to experience andragogy in their classrooms as much as they would like to. Dimension-wise deeper analysis reveals that five out of six principles are responsible for the difference while the sixth principle relating to internal motivation of the learners is not much potent in this case. Addressing this gap is essential to uplift the status of higher education in the country.

Introduction:

Teaching-learning is a way for development of both students and teachers. In each stage of institutionalized system of education, from elementary up to higher education, various teaching methods are practiced which are loosely referred to as 'Pedagogy'. 'Andragogy' is a philosophy introduced by Malcolm Knowles which advocates that adult learners need to be taught differently from their child counterparts. It postulates six principles that clearly distinguish the learning approach of mature learners vis. a vis. school goers who look up to teachers to control their learning. These principles are:

1. Adults need to know what benefits they would gain from enrolling in a course and would not blindly opt for a course due to others' persuasions that do not help their lives in any way.
2. Adults have a strong self concept that prevents them from accepting anything just because it is coming from someone, so called higher in the hierarchy.
3. Adults in general, have a vast reservoir of experience that can be used as a learning resource for new lessons. This, if done, validates their experiences and helps them observe the new content easily and effectively.

4. Adult learners need not be aroused suitably for a lesson to be taught; rather their readiness to learn is directly connected to the scope of application of the lesson in their daily lives.
5. They do not prefer to learn subjects first and later apply them to life problems. Their orientation to learning is life-centered or problem-centered as opposed to subject-centered.
6. Adults are not driven by external motivators like ranks, trophies and praises that much, rather internal motivators like improvement of life quality are more potent for them.

The theory of andragogy can be used in teaching of any learner who has the potential to be self directed (Knowles, 2005). Since professional courses are designed to make students self functioning in their domains it is reasonable that andragogy should find substantial scope of application therein. In many situations across the globe, like USA (Ellis, H. J. C., 2002; Pembridge & Perretti, 2013) England (Annette et al, 2006), Finland (Janhonen, 1991) and Malaysia (Hashim R. et al, 2010), andragogy has been applied in higher education with mixed to good outcomes. Some have collected data from students (Ellis, H. J. C., 2002; Hashim R. et al, 2010) some others from teachers (Janhonen, 1991) some from both (Painbridge & Perretti, 2013) whereas one has collected data from heads of institutions (Annette et al, 2006). From the outcomes of these studies, it is quite clear that students pursuing professional streams in higher education would like to enjoy a loosely controlled teaching approach whereby they can exercise a greater deal of autonomy as advocated by andragogy (Ellis, H. J. C., 2002; Annette et al, 2006; Painbridge & Perretti, 2013). Andragogy improves student learning and satisfaction as the self-directed independent approach helped them absorb more material (Ellis, H. J. C., 2002) and caters to their self-centered preferences (Annette et al, 2006). This can only happen if teachers also support and facilitate the process. That is quite not the situation as many teachers don't quite support the idea. They are either not yet ready to fully accept Andragogy as the guiding perspective behind their teaching approach (Janhonen, 1991) or view their students to be much less worthy of andragogical practice than the students' self-evaluation (Painbridge & Perretti, 2013). The need to bring in andragogical practices in adult classrooms is also highlighted through focusing more on initial rapport building (Painbridge & Perretti, 2013) or increasing student engagement through identifying learning goals and including suitable real-world projects (Hashim R. et al, 2010). However no such study describes what is the situation in India and this research is a humble effort to shed light on that area.

Method:

There are 240 higher education institutions in and around Kolkata under 11 universities (collegeadmission.in, n.d.). Among these we have randomly chosen 4 institutions of which two are government and two are private, where students pursue post-graduate professional courses. Those courses which prepare the student to perform as a practitioner of a particular profession, are considered as professional course. To collect data from 100 students, 25 students from each institution were randomly selected for the study.

Tool:

Two questionnaires have been employed to collect data from the students, one measuring their perspective towards Andragogy (Questionnaire on Andragogy for Students – Perspective i.e. QASP) and one measuring their experience of Andragogy (Questionnaire on Andragogy for Students – Experience i.e. QASE). The Cronbach Alpha Reliability Coefficients of both the tools have been separately computed as 0.903 for QASP and 0.885 for QASE. Both the tool contain same set of 40 items based on Malcolm Knowles' theory of Andragogy which have been developed by the researchers. Content validity of both have been ascertained by experts after which pilot study was conducted which resulted in multiple revisions of the tools. The 40 items are based on the six principles of andragogy i.e. (a) Need to Know – 4, (b) Self-concept – 6, (c) Learners' experience – 14, (d) Readiness to learn - 5, (e) Orientation to learning – 7 and (f) Motivation – 4.

Reliability Statistics for Perspective

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
903	.919	40

Table 1: Reliability – QASP

Reliability Statistics for Experience

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.894	40

Table 2: Reliability - QASE

The post-graduate students of professional courses gave their perspective or experience against each of the 40 items of both questionnaires. Both the tools have a Likert type 5 point scale attached with all the items whose and the following weights are assigned to them:

For positive items in the Perspective Scale, 1 means 'Totally Against', 2 means 'Against', 3 means 'No Opinion', 4 means 'Support', 5 means 'Fully Support' (the order is reversed for negative items). Similarly for positive items in the Experience Scale, 1 means 'Never Happens', 2 means 'Rarely Happens', 3 means 'Sometimes Happens', 4 means 'Frequently Happens', 5 means 'Always Happens' (the order is reversed for negative items).

Analysis:

The respondents are asked to rate their preference and experience on a scale of 1 to 5. Though discrete, the gaps between any point on any scale and its next point or previous point are the same and therefore the scales may be considered as interval scales. Out of the 100 filled up forms collected, 2 were rejected as the responses were clearly one-sided and perfunctory.

Perspective vs. Experience:

Before we proceed to study whether postgraduate students studying professional courses are getting what they perceive to be right in regards to their teaching learning from the perspective of the theory of andragogy we better first look at the descriptive statistics of both the perspective data and experience data.

Group Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Perspective	98	152.3061	22.22444	2.24501
Experience	98	137.4490	18.60391	1.87928

Table 3: Descriptive Statistics (QASP & QASE)

The differences in mean figures are indicative of the difference between perspective and experience of the students but to be totally sure we should look into whether the differences are statistically significant. So SPSS 21 is against used to perform a t-test between these two independent sets of data.

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3.503	.063	5.075	194	.000	14.85714	2.92776	9.08283	20.63146
Equal variances not assumed			5.075	188.173	.000	14.85714	2.92776	9.08170	20.63258

Table 4: t-test – perspective vs. experience

Interpretation:

In the table it is seen that Levene's test which examines the equality of variances, yields the significance value 0.063 which is greater than 0.05 our level of significance and therefore we may assume that variances of our data set are not significantly different and maybe considered to be equal. So we will follow the first line of values in the results. Here $t_{obs} = 5.075 > t_{0.05,\ 194} = 1.65$ with 2-tailed significance value .000, much less than 0.05, our level of significance.

Hence it may be concluded that there is a significant difference between perspective and experience of students pursuing professional courses with respect to andragogy in the classroom. That is, in simple words these students have preference for andragogical practices but they don't get to experience it to the same extent in their classes.

A deeper look:

Now that we have the difference between perspective and experience, to understand the situation better we should delve deeper and inspect which principle is responsible for creating such a difference and to what extent. For that let us study the responses of the students individually to the six components of the questionnaire. Since each component is represented in the main questionnaire by more than one item as shown in table to find the descriptive statistics of each principle we will collect the responses from all the items representing the principle in the questionnaire and then divide by the number of items before moving forward with the statistical analysis.

Sl. No.	Dimension		Mean	SD	df	t-value
1	Need to know	Perspective	4.2653	0.68283	194	4.958*
		Experience	3.8061	0.61188		
2	Self-Concept	Perspective	3.4117	0.52874	194	3.9*
		Experience	3.1224	0.50965		
3	Learner's Experience	Perspective	3.8845	0.72302	194	4.217*
		Experience	3.478	0.62291		
4	Readiness to Learn	Perspective	3.9429	0.69638	194	4.022*
		Experience	3.5347	0.72412		
5	Orientation to learning	Perspective	3.6876	0.6583	194	4.526*
		Experience	3.29	0.56814		
6	Motivation	Perspective	3.7168	0.69575	194	1.899**
		Experience	3.523	0.73313		

Table 5: Dimension-wise comparisons

* - significant at 0.05 level of significance

** - not significant at 0.05 level of significance

The table shows that the students demonstrate their preference for andragogical teaching learning practices in most of the principles, most having scores greater than 3.6 (except 2nd one), with principle 1, 4 and 3 being the top scorers. When it comes to their experience here also we find that they do encounter an appreciable amount of andragogy also (all scores above 3) with principle 1, 4 and 6 getting the highest scores. Another important feature to be noted is the consistent difference between the two scores (maximum 0.46 for 1st principle to 0.19 for the last principle). To comprehend the underlying phenomenon better, the six t-tests are also performed so that it may be understood what practices in the class is causing the difference and which not. The extreme right column shows the list of t-values.

t-Test: Two-Sample Assuming Equal Variances		
For Sixth Dimension: Motivation		
	Perspective	Experience
Mean	3.716836735	3.522959184
Variance	0.484069272	0.537482906
Observations	98	98
Pooled Variance	0.510776089	
Hypothesized Mean Difference	0	
df	194	
t Stat	1.898935817	
P(T<=t) one-tail	0.02952848	
t Critical one-tail	1.652745978	
P(T<=t) two-tail	0.059056959	
t Critical two-tail	1.972267488	

Table 6: t-test for sixth dimension

From the t-values, it is clear that the t-values for all the dimensions are greater than the critical value i.e. $t_{0.05,\ 194} = 1.65$. But for the sixth principle it is very close to the critical value $t_{obs} = 1.899 >$ (but very close to) $t_{0.05,\ 194} = 1.65$. So the 2-tailed significance value is checked which comes out to be 0.059 which is slightly greater than the level of significance 0.05. Therefore difference in this case, even though exists is statistically not significant. Thus the significance in total difference is contributed by all components except the 6th, i.e. there is no significance difference between perspective and experience of students in respect to the 6th principle while in case of all other principles, there are significant differences which altogether lead to the net difference of scores. This shows that there is a notable gap between what students want and what students get in respect of andragogical ways of teaching-learning. The results of the t-tests are to be studied in connection to the Mean Difference values given in the previous table.

Discussion:

The appreciable scores detected in perspectives of students towards andragogy in this study corroborates the findings of many earlier studies (Ellis, H. J. C., 2002; Annette et al, 2006; Painbridge & Perretti, 2013). However none of these looks deeper to the components to detect the root causes. The comparative deficiency experience side of things can also be gauged from the above mentioned studies which collect data from teachers and principals which show their not-so-welcoming stand (Janhonen, 1991; Painbridge & Perretti, 2013; Hashim R. et al, 2010). The six t-tests are done to look deeper into this gap to find out which principle(s) of Knowles is/are responsible for such a situation.

The highest t-value, for the first principle of andragogy which talks about need to know shows that at professional courses of higher education students are not enough explained how the knowledge and skills would uplift them. Teachers go on to teaching the content of the lessons directly without connecting them to the practical aspects of application that will benefit the student as well as the society. In fact, relatively high t values accounted for in the 4th and 5th principles are also connected with this. The fourth principle emphasizes that students resort to education to meet the problems they face in life at that point. The weak connection between theoretical and practical aspects as shown in the results of the first principle kind of accommodates the difference in fourth principle also. These principles deal about the need for practical application of knowledge (Principle 1) and the relevance of education to real-life problems (Principle 4) and such high discrepancies in these areas suggest that students may not be adequately informed about the practical benefits of the knowledge and skills they acquire in their courses.

The higher t-value of the fifth principle which talks about adopting a problem solving approach to learning a concept can also be attributed to the lack of teachers spending adequate time in preparing and motivating the students before the actual lesson. Whether the system allows and provides for it is a separate question. Actually the potential gap in connecting theoretical content to practical applications we found with regards to 1st and 4th principles may be impacting students' problem-solving approaches (Principle 5). It is also seen that the teachers seem to be not fully utilizing the large reservoir of learners' experiences in constructing the lessons of the class because the t-value of 3rd principle is also relatively high. In contrast there are rather smaller t-value in the second principle which speaks about student's self-concept and need of being self-directed. It is worth noting that for the second principle the perspective score itself is very low in fact the lowest 3.36 which means that students themselves do not have that drive to be self directed in their learning endeavors that much. Therefore it is reasonable to accept that they get to experience it also to a much lesser extent. The students themselves may not exhibit a strong drive for self-direction in their learning endeavors and hence the 2nd principle receives relatively low emphasis.

Regarding the 6th principle which talks about internal motivators being more powerful than external motivators for learners the perspective score itself is not much higher (3.71) i.e. internal motivators are not that dominant over external ones as proponents of andragogy would like to be. When it comes to the practice aspect, the little lower score means that even though students understand that improvement of life quality is more potent than the rewards and fame, they do fall prey to real life temptations and so cannot but be motivated by external factors. Thus for these students internal motivators do not significantly dominate external ones and thus the t-value becomes lower. However it is still worth pointing out that t-value is not negative i.e. perspective score is still greater than the experience score. This implies that these adult learners have internal motivators playing a role behind their studying though they also easily fall prey to external ones too and thus internal motivators which andragogy espouses are acknowledged as important. It is only that the external motivators still play a more powerful role in influencing students. However, it is noteworthy that the internal motivators, though not overwhelmingly dominant, still exert some influence on students' learning.

Conclusion:

This research underscores the importance of aligning teaching methods with the preferences and needs of adult learners in professional courses. Though this study on post-graduate professional students in engineering and medical courses in Kolkata the researchers have tried to shed light on the discrepancy between preference and actual experiences encountered by students with regards to andragogical teaching-learning practices. The findings reveal students' perspectives and experiences indeed differ across all principles of andragogy, except for the sixth. Addressing these discrepancies can contribute to improved student engagement, satisfaction, and overall success in higher education.

In light of these findings, it becomes imperative for educators and institutions to make attempts to bridge this gap between students' preferences and their actual learning experiences. Incorporating andragogical principles into teaching practices, emphasizing practical applications, and fostering a supportive environment for self-directed learning could enhance the overall educational experience for post-graduate professional students.

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