



Adult Learning Principles and Processes in Online Learning Environments

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BACKGROUND and PURPOSE

- The Andragogy in Practice Inventory (API) was developed to assess the extent to which adult learners perceive that the learning activities they engage in are consistent with the principles and process design elements framed within the theory of andragogy (Holton, Wilson, & Bates, 2009).
- After introducing API to academia, several studies have used API to examine the features of adult learners and their relationships with the principles and design elements of andragogy in the United States (Cannonier, 2014; Leigh, Whitted, & Hamilton, 2015; Watts, 2015).
- However, little research has been conducted to investigate the applicability of API in online learning environments. It is very important for online instructors to understand the characteristics of adult learners and develop the best instructional methods for them. Additionally, it is significant to use appropriate measures to evaluate how much andragogy principles and design elements have applied to adult learning practice in online settings.
- Therefore, the purpose of this study is to examine the relationships among adult learning principles and processes in online learning environments by using the Andragogy in Practice Inventory (API).
- The main research question for this study is, how much adult learning principles and processes are related in online learning environments?

THEORETICAL FRAMEWORK: ANDRAGOGY

- Andragogy has provided a fundamental framework for adult learning and education (Holton et al., 2009; Knowles, 1990; Knowles, Holton, & Swanson, 1998; Pratt, 1998). Scholars have described and defined andragogy in many ways (e.g., Beder & Carrea, 1988; Feuer & Gerber, 1988; Merriam & Brockett, 1997; Rachal, 2002). For instance, Andragogy is viewed as a “guiding principle on how best to educate adults” (Beder & Carrea, 1988, p. 75) and “a way of thinking about working with adult learners” (Merriam & Brockett, 1997, p. 135).
- Knowles (1984, 1989) defined six basic principles and eight design elements of andragogy. To successfully teach adult learners, the six basic principles shift the focus of learning from being teacher-centered to learner-centered. These principles include self-directed learning, prior experience, readiness to learn, orientation to learning, reason for learning and intrinsic motivation to learn (Knowles, 1989).
- The eight design elements of Andragogy encompass a wide range of activities which occur before, during, and after the learning experience, including: preparing the learners, climate setting, mutual planning, diagnosis of learning needs, formulation of learning objectives, learning plan design, learning plan execution, and evaluation (Knowles, 1984).
- When andragogical principles and design elements are adequately considered, andragogy is able to address learning needs of adults and enhance the practice of adult education by using appropriate instructional methods (Brookfield, 1986).

METHODS

- The subjects of this study were adult learners who are 24 years and over, enrolled in the online program of a higher education institute in the US.
- Data were collected via the questionnaire with 60 items.
- The measure was the API developed by Holton and colleagues (2009), consisting of two sections (the principles of andragogy and the learning process design elements for adult learners).
- The questionnaire implemented a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).
- A total of 164 responses were analyzed, excluding 39 incomplete responses.

RESULTS: DESCRIPTIVE STATISTICS and CORRELATIONS

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Principle (.91)	1. NTK	-												
	2. SD	.79**	-											
	3. EX	.64**	.80**	-										
	4. RL	.63**	.74**	.82**	-									
	5. OL	.47**	.65**	.74**	.74**	-								
	6. MO	.41**	.60**	.62**	.57**	.72**	-							
Process (.94)	7. PL	.23**	.39**	.48**	.36**	.55**	.63**	-						
	8. CS	.36**	.52**	.61**	.57**	.70**	.78**	.63**	-					
	9. MP	.36**	.55**	.63**	.55**	.70**	.81**	.66**	.83**	-				
	10. DLN	.37**	.59**	.65**	.57**	.68**	.72**	.68**	.70**	.72**	-			
	11. SLO	.26**	.45**	.58**	.49**	.58**	.71**	.63**	.71**	.82**	.67**	-		
	12. DLE	.29**	.47**	.56**	.52**	.65**	.69**	.55**	.65**	.73**	.66**	.73**	-	
	13. LA	.47**	.62**	.63**	.63**	.74**	.73**	.46**	.72**	.72**	.67**	.62**	.66**	-
	14. EVA	.30**	.45**	.52**	.50**	.63**	.60**	.52**	.60**	.64**	.63**	.65**	.78**	.60**
Mean	4.36	4.12	3.92	4.05	3.76	3.56	3.08	3.08	3.33	3.47	3.18	3.43	3.88	3.26
Standard Deviations	.52	.53	.59	.54	.77	.82	.82	.80	.90	.94	.94	.72	.66	.84

- ** p < .01
- Reliability coefficients (Cronbach Alpha) are in the diagonal.
- Principle: Need to know (NTK), Self-directed learning (SD), Prior experience (EX), Readiness to learn (RL), Orientation to learning (OL), and Intrinsic motivation to learn (MO)
- Process: Preparing the learner (PL), Diagnosis of learning needs (DL), Climate setting (CS), Mutual planning (MP), Diagnosis of learning needs (DLN), Set learning objectives (SLO), Design of the learning experience (DLE), Learning activities (LA), and Evaluation of learning (EVA).

IMPLICATIONS

Theoretical Implications

- This is the first study to use the API in online learning settings. The results of the current study could serve as evidence establishing further generalizability and robustness for using the API in different learning practices.
- This study can provide a theoretical foundation to elaborate the updated version of the API and expand the application of the principles and design elements of adult learning to diverse settings.

Practical Implications

- Educators and practitioners in the field could use the API and apply the results to prepare and develop instructional strategies for their learners. By working with adult learners, practitioners could use the principles of adult learning to incorporate andragogical design elements into their curricula to create greater learning outcomes.
- The API can be used as a tool to collect information and feedback from learners to enhance their motivation, improve instructional methods, and update learning activities in their respective learning contexts.

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