Explaining Academic Learning from an Attitude-Based Perspective – A Multiple Regression Analysis

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ABSTRACT

In earlier studies we published, we sustained an eclectic approach on academic learning and the influence of learner's attitudes on learning performance. Our latest published study advanced a model for academic learning that encompassed constitutive elements such as attitudes toward learning, learning conduct and learning satisfaction. The current paper intends to shed more light on the model by aiming to test, through regression analysis, the accuracy and relevance of the constitutive elements and their assumed interrelationships.

KEYWORDS: *effective academic learning, attitudes towards learning, learning conduct, learning satisfaction, regression analysis.*

1. INTRODUCTION

Although the human learning process has been widely and intensively studied, leading to interesting and, often enough, intriguing findings and theories, still there is room for research and debate. Starting from what we refer to as learning, continuing with learning might be, also what learning cannot be, and establishing what learning actually is – in terms of validated assumptions - the philosophical discourse transforms into a psychological one, only to become a matter of great pedagogical concern. In schools and universities, learning takes the shape of an organized and systematically pursued process that, we believe, has at least equally to do with students' and teachers' intellectual capacities, as it has to do with their attitudes and affective responses.

2. EFFECTIVE ACADEMIC LEARNING

As mentioned earlier, a model for academic learning was presented in a previous paper (Topală, 2014), stating that learning is presumably influenced by factors that fall into two categories: individual-related factors and instructional-related factors. In these broad categories, we have mentioned the individual's prior learning experiences and a set of individual psychological variables - on one side, and teaching/instructional strategies used in the educational situation – on the other side. In order to claim its effectiveness, academic learning has to be both productive – in terms of learning outcomes- and satisfactory – in terms of learning satisfaction.

2.1. Effective learning conduct

Based on information gathered through systematic observation, interviews and questionnaire-based surveys, we believe that learning in an academic context reaches its full potential when preceded and accompanied – from the individual point of view- by effective learning conduct and positive attitudes towards learning, and followed by learning satisfaction and, yet again, positive attitudes towards learning. In other words, we assume that learning conduct and the attitudes toward learning have at least an equal importance in determining the

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effectiveness of learning as do intelligence, learning style, level of anxiety, locus of control, motivation, self-esteem and self-direction of learning – defined by Lounsbury et al. (2009) as a personality trait associated with satisfaction with school (faculty) and satisfaction with life all together. We will refer to learning conduct as to a configuration of specific actions and strategies, designed, organized and performed accordingly, that a person engages in while learning in an academic context. The learning conduct speaks about mental planning and coordination of strategies for managing the learning tasks, while referring to the actual actions and implementation of decisions regarding the best way to proceed in learning. Effective learning conduct refers to those strategic decisions and actions that allow the learner to obtain the highest level of performance with the smartest use of resources.

So far, the best idea when it comes to effective learning conduct is the use of a metacognitive and self-evaluative approach to academic learning. Effective learning conduct means the judicious decision regarding learning planning and organizing learning resources (prioritize learning tasks, allocate time and establish conditions for learning), the smart choices when it comes to learning strategies (usage of the suitable learning techniques) and self-conscious efforts of optimizing the learning behavior (bettering the understanding process).

We've measured the learning conduct using a 25 items questionnaire that evaluated, through a five-points Likert scale, the likelihood that the respondent is to build learning strategies and adopt consequent learning behaviors, ordinarily using specific learning techniques, to help him/her learn better (more effective) in an academic context.

2.2. Learning satisfaction

Adding an affective flavor to the effective learning equation, learning satisfaction has much to do with _feeling_ from content to fulfilled about the learning process, as a whole – its deployment, its outcomes and the people involved. The satisfaction towards learning starts to take shape _during_ the learning process, with every element that makes its way to the personal learning context. The learning satisfaction becomes a continue evaluation (mostly non-rational) of the learning experience, and results in a general impression about the process, as a whole. This general shaped affective impression is one of the corner stones of positives attitudes towards learning and a bid bond for future engagements in learning opportunities.

From a methodological point of view, we've measured this construct with an instrument called SLSQ (Topală and Tomozii, 2011) which basically consists of a questionnaire that evaluates, on a five-points Likert scale, the students' level of satisfaction with academic learning, on 6 dimensions: _learning conditions and facilities; learning content; teacher and teaching activity; learning outcomes; learning climate; peer-group relations._ The general score obtained by the respondent indicates the level of satisfaction he/she experienced with the learning process in an academic context.

2.3. Attitudes towards learning

Seen not only as an axiological-oriented perspective, but more as a complex evaluative statements (Robbins and Judge, 2007) that set ways of getting oneself in relationships with the social, cultural and physical surroundings, attitudes matter because they have the potential of generating action. And not only immediate actions, but also in the long-run. A student's attitudes towards learning can be decisive when it comes to getting involved in learning situations and succeeding in resolving academic learning tasks. The attitudes towards learning include cognitive or rational appraisals, emotional or affective evaluations and volitive aspects that give the attitude the spring for action. For example, a favorable general attitude towards learning can

be translated into *ideas* pertaining to the importance of learning (its value for a learner's life and well-being), associated with *feelings* or emotional responses (a person likes to learn because he/she associates learning with doing something important, that fulfills him/her), leading to *specific behaviors* and *conducts* (becoming a student in a class).

3. THE RESEARCH COORDINATES AND REGRESSION ANALYSIS

The main **objective** for this research was to identify and rank the strongest predictors, amongst the one chosen, that could estimate the academic learning satisfaction in adult students (ages 25+). The leading **hypothesis** for this paper is that we can establish, through multiple regression analysis, a set of significant predictors for estimating the level of learning satisfaction, and we can identify the strongest from that set. The more specific assumption is that learning satisfaction is most accurately predicted by the attitudes towards learning, the learning conduct and the learning outcomes (academic results).

The **instruments** used to gather the needed information were questionnaires that measured personality aspects, such as attitudes, learning strategies usage, satisfaction with academic learning, learning motivation, locus of control, learning autonomy. Thus, we used the following questionnaires: *Attitudes towards learning questionnaire* (15 items, five-points evaluation Likert scale); *Students' learning conduct questionnaire* (25 items, five-points evaluation Likert scale); *Students' learning satisfaction* (SLSQ, Topală and Tomozii, 2014); Teresa *Amabile's motivation for learning questionnaire* (Amabile, 1994); *Spector's locus of control Scale* (WLCS, Spector, 1988); the *Self-directed learning Scale* (Lounsbury et al., 2009).

We have chosen to test the following factors - the academic results, the level of internality (locus of control), the motivation for learning (using Teresa Amabile's 4 factors, 2 factors for each of the internal dimension and external dimension of motivation), self-direction of learning, the learning conduct and the attitude towards learning- as *predictors* for learning satisfaction. The reason for which we have chosen learning satisfaction as a *criterion variable* resides in the importance we place on the learning satisfaction as a factor of great value for the learning process. As stated before, this construct is considered to be influential for the measure in which a person is likely to engage in future learning activities and the probability of success in these activities.

For the regression analysis, we selected a sample of 100 students, ages 25-60, m=32 years, that responded to a set of 6 questionnaires pertaining to the mentioned variables (criterion and predictors). Using SPSS 14.0, we established that our regression model - including the mentioned variables - has an explanatory power of 28,2% (Adjusted R^2 = 0,282). This value represents a *medium* explanatory power for a regression model, keeping in mind that, according to Florin Sava (2011), "in the social sciences field, most coefficients of determination are situated between 0,10 and 0,50" (p. 230). Reading the Beta coefficients in a standardized form, in Table 1, led us to believe that the academic results, self-direction of learning and the attitude towards learning are the best predictors for the learning satisfaction.

Table 1. Results of multiple regression analysis

	Standardized Coefficients Beta	t	Sig.
Academic results	,255	2,643	**,010**

Level of internality	,053	,499	,619
Intrinsic motivation-pleasure factor	,072	,551	,583
Intrinsic motivation-challenge factor	-,079	-,618	,539
Extrinsic motivation-recognition factor	,211	1,823	,072
Extrinsic motivation-reward factor	-,122	-1,086	,281
Self-direction of learning	-,246	-2,040	**,045**
Attitude towards learning	,400	3,284	**,002**
Learning conduct	,196	1,735	,087

An interesting issue that appeared in this regression analysis is the sign of the self-direction of learning variable. The negative value indicates that, while the autonomy in learning (self-direction of learning) is increasing, the learning satisfaction decreases. It becomes a matter of paradox, as we are facing the possibility that being more autonomous in the learning process leads to a lower level of satisfaction. The most probable explanation for this result is a systematic error due to the language translation of the Lounsbury instrument (Self-directed learning Scale) and its application on Romanian students, which are culturally different from the student population (American) on which the instrument was originally validated. In reference to our hypothesis, we can indeed establish a set of statistically significant predictors for the learning satisfaction variable, and we can rank them accordingly. Also, in a more specific note, our assumption regarding the predictive power of the 3 variables – academic learning, attitude towards learning and learning conduct- is, at this point, quasi-confirmed. Meaning that only 2 of the 3 assumed predictors were proven to be significant. For the third variable, we will once again cite professor Florin Sava (2011), which clearly states that, if we are dealing with an unilateral hypothesis, in which the researcher specifies from the beginning the direction of evolution for the criterion, based on the predictors values, "we can proceed in halving the p-value in order to test that unilateral hypothesis"(p. 232). By doing this, the "Learning conduct" predictor becomes a significant one. Thus, the initial assumption regarding the top 3 most powerful predictors (from the set we have established), is fully confirmed.

4. CONCLUSIONS

Our goal for this paper was to shed more light on aspects that pertain to the effective academic learning. The aspect we have discussed here is the learning satisfaction and its relations with factors such as academic results, students' attitudes towards learning and learning conduct. Our intention of proving, through multiple regression analysis, that the learning satisfaction is significantly linked to those factors mentioned before has its roots in establishing a more coherent understanding of the effectiveness of the learning process in an academic context. It has been shown that what is most likely to predict the satisfaction with learning are the learning outcomes (academic results), followed by the attitudes towards learning and the learning conduct. In order to achieve good academic results, the attitudinal and behavioral factors of learning (attitudes towards learning and learning conduct) have to be in place for success. From an educational perspective, this finding can be translated into

practice by considering those psycho-pedagogical strategies that focus on the teacher-students and student-student relationships, and on a constructive approach of attaining knowledge, in order to improve the students' attitudes towards learning. Also, teachers could adopt instructional strategies that assist students in getting through learning tasks by using smart learning techniques (that save up time and effort) and a metacognitive approach to understanding and assessment, as vital parts of an effective learning conduct.

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