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## ISSUES OF TODAY'S ONLINE EDUCATION: PSYCHOLOGICAL PORTRAIT OF THE PROBLEM STUDENT

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### Abstract

The online *problem student* is one who fails to benefit from the modern learning environment based on the information technologies. The purpose of this work was to find out whether psychological characteristics helpful for identifying *problem students* in a traditional classroom are the same in a new learning environment. The study was conducted with 123 graduate students, who took Dr. Toom's online psychology courses within three consecutive semesters of 2013. The research methodology included an analysis of the students' coursework and academic performance within the semester and mathematical analysis of the collected data. According to the results, four psychological characteristics can be considered valid and reliable for identifying online problem students: cognitive apathy, low self-organization, lack of learning motivation, and being uninformed. These negative characteristics are closely interconnected (correlation coefficients  $K=.54-.76$ ) and highly correlate with students' low academic achievement (correlation coefficients  $K=.50-.68$ ). Based on the results the psychological portrait of the typical online problem student was described. The results can be useful for developing effective strategies for training and educating online beginners and problem students.

**Keywords:** *online education, problem students, psychological correlates of successful learning.*

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### 1. Introduction

Nowadays, rapid development of information technologies and solid requirements for entry-level professionals at the job market change the psychological profile of a typical *problem student*. At least, its definition, commonly accepted by school teachers, is not valid for graduate students (Ko, 2014). At the Master's Program level students rarely misbehave disrupting the atmosphere in a virtual classroom and preventing others from successful teaching and studying. Now the problematic character rather shows itself in the students' unproductive learning style and low academic achievement.

### 2. Theoretical Framework

In the studies of psychological correlates of successful learning, despite of the abundance of terminology, some concepts seem to occur most frequently: cognitive (intellectual) eagerness/curiosity, self-organization/discipline, and learning/achievement motivation (Robbins, 2004; Richardson, 2012). Indeed, motivation assures prolonged interest for the subject of study, cognitive curiosity is a base for productive learning, and self-organization is necessary for performing the educational activities systematically and in a timely manner rather than chaotically or spontaneously. With incorporation of information technologies in education, human ability to actively and independently search for and adequately operate with information becomes yet another correlate of successful learning, although scholars working on the topic seem not to pay enough attention to it. The four mentioned psychological characteristics are the subject of our research.

To study traits of personality affecting learning, specialists tend to use interviews and surveys measuring the student's perceptions and opinions. Another method is based on the analysis of products of human labor and creativity which reflect in-depth personal characteristics. Being more direct, the latter is at least as, or even more objective and efficient than the prior one. This method (sometimes in a combination with a survey) is fruitfully used by educators nowadays (Hartnett et al., 2011; Dadach, 2013). In our study we also use this method. One's activity is a projection of one's personality characteristics, and among many human activities, learning is especially significant.

### **3. Research Methodology**

The purpose of this work was to determine whether psychological characteristics helpful for identifying *problem students* in the traditional classroom are the same in online classes. The specific objectives are as follows: 1) To analyze how the four psychological characteristics of the learner – cognitive eagerness, self-organization, motivation, and being informed – are interconnected in online classes, 2) To find how these characteristics correlate with students' academic achievement.

The investigated population consisted of 123 graduate students, who took the author's online psychology course *Child Development and Learning in the Cultural Context*. The study was conducted within three consecutive semesters of 2013: in spring with 47, in summer with 34, and in fall with 42 participants.

The research methodology included 1) analyzing of the students' coursework submitted to the course site and their academic achievement within the semester and 2) conducting mathematical analysis of the data.

#### **3.1. The principles of coding data**

Four psychological correlates of successful learning – cognitive eagerness, self-organization, motivation, and being informed – had their indicators in the students' online course work. Identifying of these indicators and attributing numerical values to them allowed perform quantitative analysis of students' data.

When attributing numerical values to a student's course work, we were guided by the following rule: not meeting requirements one or two times within the semester may be accidental. However, not meeting them more than twice is rather a consistency reflecting a certain style of learning and a trait of personality. "More than twice" was a boundary for categorizing our study's participants.

Cognitive eagerness (*COG*) manifested itself in the quality of the students' course work. If a student submitted homework assignment incomplete and/or full of mistakes more than two times within the semester, her/his cognitive eagerness was coded by 0; otherwise it was coded by 1. In the first case we dealt with cognitive apathy, in the second – with cognitive eagerness.

Self-organization (*ORG*) displayed itself in ability to submit the course work in a timely manner. If a student submitted late coursework without a valid excuse (defined in the course policy) more than twice within the semester, her/his self-organization was coded by 0; otherwise it was coded by 1. In the first case we dealt with disorganization and lack of self-discipline, in the second – with self-organization.

Motivation (*MOT*) could be easily identified through a tendency to exceed requirements of the course. If a student submitted his/her high quality coursework in advance (1-2-3 weeks before the due dates) without having any special circumstances (delivery, surgery, or vacation forthcoming during the semester) at least twice, her/his motivation was coded by 1; otherwise it was coded by 0. In the first case we dealt with high learning motivation, in the second – with low learning motivation.

Being informed (*INF*) manifested itself in informative postings for discussions on the Discussion Board. If a student did not support her/his responses by scientific facts and did not provide the required number of references more than in two discussion forums within the semester, her/his ability to search for information was coded by 0; otherwise it was coded by 1. In the first case we dealt with a student being uninformed, in the second – with one being informed.

Academic achievement (*ACH*) was represented by the student's final course grade. If a student received a grade lower than 83, her/his academic achievement was coded by 0; otherwise it was coded by 1. In the first case we dealt with low academic progress or even failure; in the second – with academic success. Thus, after coding data, everyone out of 123 students, our study's participants, was characterized by a tuple of five numbers; each of them was either 0 or 1. For example, [*COG*=1; *ORG*=1; *INF*=0; *MOT*=1; *ACH*=1]. The correlation analysis was conducted based of these data.

From the mathematical point of view, a variable corresponds to every mentioned above psychological characteristic. To find how strong relationships were between the variables, Pearson's correlation coefficients were calculated with the use of the following formula:

$$K = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}$$

where  $n$  is the number of students in the group;  $x=(x_1...x_n)$  and  $y=(y_1...y_n)$  are distributions of the chosen variables ("How to Compute Pearson's Correlation Coefficient," 2013). The correlation coefficients corresponding to the ten possible combinations of two out of five variables were calculated. Their values are shown in Table I.

Table I. The correlation coefficients between variables listed by the semesters and the total of 2013

Coefficient of correlation	Spring 2013	Sumer 2013	Fall 2013	Year 2013
$K_{ACH,COG}$	.68	.75	.60	.68
$K_{ACH,ORG}$	.56	.72	.62	.61
$K_{ACH,INF}$	.53	.72	.57	.58
$K_{ACH,MOT}$	.46	.50	.62	.50
$K_{ORG,COG}$	.76	.92	.75	.76
$K_{ORG,INF}$	.76	.83	.59	.71
$K_{ORG,MOT}$	.51	.52	.59	.54
$K_{COG,INF}$	.55	.92	.68	.55
$K_{COG,MOT}$	.59	.50	.62	.59
$K_{INF,MOT}$	.43	.51	.60	.54

Note. *COG* = cognitive eagerness; *ORG* = self-organization; *INF* = ability to search for information; *MOT* = motivation; *ACH* = academic achievement.  $K_{x,y}$  = the correlation coefficient between two variables  $x$  and  $y$ .

All pairs of variables have positive correlations; most of them are greater than .50. Thus, all psychological correlates of successful online learning are closely interconnected.

The correlation coefficients for three groups of students that took the course in different semesters of 2013 are very similar. Remarkably, that these results are similar to the results of the author's identical study conducted at the same college in 2005-2011 (Toom, 2013). It serves as evidence of the results' reliability.

An individual analysis of students' data showed that students lacking any two out of four studied psychological characteristics are still able to adjust to a new learning environment and complete the course relatively successfully. However, lack of any three out of four characteristics is a strong indicator of a problem student.

## 5. Discussion

On the basis of the results the psychological portrait of the typical online problem student has been presented.

The typical problem student has a poor educational experience and low academic performance. S/he still doubts which type of education is best for her/him. S/he takes distance online courses just to avoid spending time for travel to the college and naively assumes that they are easier than face-to-face ones. This student starts doing his course work not being aware of the requirements and rules of online communication. All requirements and disciplinary policy are stated in the instructions, and instructions are located right on the pages of the course site, but some students do not read them. The problem student does not find them or ignores them. Speaking metaphorically, a problem student is playing a game without knowing its rules.

Absence of traditional educational attributes, such as a live teacher's initiative or the lectures as the main source of information, confuses this student. He gets lost. It seems that he does not understand that an active search for information is essential for successful learning in online classes. He has no idea that most of the information needed may already be accumulated in the pages of the course site, and it is sufficient to click at the links well visible on the screen. For this reason, it is usual for problem students to find out in the middle of the semester that they are missing some necessary activity, and they rush to catch up.

What is even worse than poor searching skills is that a problem student has no motivation to develop them. Such a student seems to have very low learning motivation in general (if any). Also, she does not acquire cognitive skills in the course of study. One may say that she is in a state of cognitive apathy. Goal-oriented and systematic intellectual work is beyond her. She has no mental discipline. If the reading contains five key concepts needed for the analysis, she usually finds only two that are described in the first few paragraphs, because she does not attentively read the text. That's why problem students seldom bring their homework to completion. This student is not self-disciplined and cannot reasonably allocate time and energy necessary to prepare her course work. One week she works well energetically discussing various issues with the classmates on the Discussion Board, but another week she is unable even to send her homework on time. Irregularity and instability are typical characteristics of problem students.

Sometimes one can see growth in such a student's mastery of a new learning style. However, right after that s/he may disappear for a couple of weeks and lose all the advantages accumulated in the previous period. "They are not able to keep their boat fully afloat" – others say about such people. Their behavior is unpredictable and the progress unreliable. They rarely finish the course in due time: by the end of the semester it may turn out that they have completed at best 70% of the required coursework. So, such students get "Incomplete" grades (in the best case) and spend a year more to catch up. If the final research paper is missing, they are preparing it when the semester is over, that is being isolated from the discussions with classmates and the professor. So, problem students grasp neither the art of searching for appropriate bibliography on the Internet nor the art of writing sensible thematic papers.

To complete the picture, it should be mentioned that many of problem students are by far not amenable. The attempts to convince them to observe the rules declared in the

course policy are doomed: instead of changing their habits and learning harder, they complain and blame the professor in “being forcing” or “violating their privacy”. After all, sooner or later most of them receive passing grades. They get grades, but they do not get knowledge. They are those very people about whom the Commission on the Future of Higher Education states, “employers report repeatedly that many new graduates they hire are not prepared for work, lacking the critical thinking, writing and problem-solving skills needed in today’s work places” (“Secretary Spellings’s Action Plan,” 2006).

## 6. Conclusion

Four psychological characteristics – cognitive apathy, lack of self-organization, low learning motivation, and being uninformed due to inability to search for online information sources needed for performing course activities – can be considered reliable criteria for identifying online problem students. One can predict a student’s likely academic failure if at least three out these four criteria are present.

Psychological correlates of successful learning are actually the same in traditional and online classes. However, they transform to correspond to the changes in the learning environment based on technology. Probably, the most affected characteristic is *being informed* because passive receipt of knowledge from the instructor should now be replaced with active and independent research for a variety of information in the course site and the Internet.

The results of this study may be helpful to develop effective strategies for training and educating online beginners and problem students.

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