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## Investigation of the relationship between learning approaches and online self-regulation behaviour

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### Abstract

In this research, researchers aim to contribute to current literature on self-regulation by investigating the relationship between learning approaches and online self-regulation behaviour. In this study we use learning approaches as a predictor of online self-regulation skills. Sub factors of online self-regulation skills; environmental structuring, goal setting, time management, help seeking, task strategies, self-evaluation are dependent variables and sub factors of the learning approaches; deep approach, surface approach are independent variables. Research data collected from 303 college student who attended online distance courses of Usak University. Regression analysis showed that learning approaches are significant predictors of online self-regulation skills.

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### 1. Introduction

Today, most of the higher education institutions offer some kind of distance education alternative (Parsad & Lewis, 2008). Most usual alternative is the internet based distance education because online distance education gives these institutions the ability to cost-effective and flexible training (Casey, 2008). Learner autonomy is the most fundamental feature of online learning environments (Barnard et al, 2009; Barnard-Brak, Lan, & Paton, 2011). Students who engage this kind of learning environments support autonomous learning, have to manage their own

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learning and take responsibility over learning. In the other words they have to be self-regulated learners. The main idea arise from autonomy is freedom of choice which means learners choose what and how to learn (Andrade & Bunker, 2009). In this regard, the learners' approaches to learning and self-regulation skills have gain importance in terms of learning outcomes. Furthermore, approaches to learning related to quality of learning outcomes (Trigwell, Ellis & Han, 2011). From this point of view, current study aims to investigate the relationship between self-regulation which can be defined as “active management level of meta-cognitive, motivational and behavioral aspects of their own learning processes” (Zimmerman & Schunk, 2001) and learning approaches which can be defined as “motivation and strategy used to fulfil the learning objectives in order to achieve learning goals”(Kirby et al, 2003). Thus we define research question of the study as “Do learning approaches are significant predictors of online self-regulation skills?”

### 1.1. Self-regulated Learning

Self-regulated learning has a multi –factorial complex structure and difficult to use traditionally (Boekaerts, 1996). Learners who have self-regulation skills are able to manage their anxiety and behaviours in order to facilitate their learning and maintain their academic success (Brynes et al., 1999). Patterns of thought, emotions and actions works together to achieve the learning objectives in Self-regulated learning process (Boekaerts, 2002). Kruglanski et al. (2010) focus on two basic functions of self-regulation which are assessment and locomotion by considering self-regulation in terms of setting goals and trying to achieve these goals. Assessment refers to comparison of alternative ways to achieve goals and locomotion refers to move from one situation to another. Carver & Schier (2011) define self-regulation as self-correcting adjustments, such as suppressing an urge arising from inside or anxiety originate from the individual for staying connected in the process of achieving the goal.

According to Pintrich (2004) there are four basic assumptions self-regulated theory based on. These are;

1. Learners are active in such process as making meaning, setting goals and setting strategies regarding to certain purposes
2. Learners have the potential to direct their own learning
3. Learning is an intentional activity not random
4. Self-regulation activities compromise personal characteristics and the actual learning performance

### 1.2. Learning approaches

As a result of the studies conducted over last three decades, teaching-learning processes have redefined and learner -centric understanding have adopted in which instructor's role moves from being a source of information to learning facilitator. One of the basic ideas arising from this situation is that learners have different approaches to learning (Lublin, 2003). These approaches are not individual differences but they differ from person to person. While some learners may have a deep approach to learning, others may have surface approach (Biggs, 1999). Surface approach implies learner's tendency to choose the fastest way to become successful, learning without asking in-depth questions and dealing with issues in minimal scale without understanding them. On the other hand deep approach consists opposite characteristics such as the ability to associate new knowledge with existing ones, study the different aspects of the material to see the whole picture, doing research related to meaning and connections between daily life, personal experiences and learning material (Bati , Tetik & Gurpinar, 2009).

## 2. Methodology

### 2.1. Participants

Participants of the study consist of 303 students enrolled several departments of Usak University. All of the participants are taking at least one course by online distance education provide by the university. While 222 of them are female, 81 are male. Ages of the participants differ between the range 18 to 30. Distribution of participants according to departments they enrolled given in table below.

Table 1. Distribution of the participants according to department

Department	F	%
Science Teaching	91	30.0

Turkish teaching	82	27.1
Elementary school maths teaching	47	15.5
Primary school teaching	44	14.5
Psychological counselling and guidance	26	8.6
Business economics	13	4.3
<b>Total</b>	<b>303</b>	<b>100</b>

## 2.2. Measures

Two data measures have been used for data collection: 1) Online self-regulation measure, 2) Learning approaches measure. Researchers reported both validity and reliability of measures.

2.2.1. Online self-regulation measure: Developed by Barnard et al. (2009) and adapted to Turkish by Kaya & Korkmaz (2012). Measure has 6 sub factors and consists of 5likert type 24 items total. The factors are; 1) Environmental structuring, 2) Goal setting, 3) Time management, 4) Help seeking, 5) Task strategies 6) Self-evaluation. Adoption study conducted with 434 university students who take online courses. Cronbach alpha coefficient calculated for reliability and found as 0,93. Confirmatory factor analysis committed for structural validity of measure.

2.2.2. Learning approaches measure: Developed by Biggs et al (2000) and adopted to Turkish by Batı, Tetik & Gürpınar (2009). Adoption study conducted with 1027 participants from medical faculty. Measure consists of 5 likert type 20 items and 2 sub factors and 4 indicators. The factors are, 1) Deep approach, 2) Surface approach and the indicators are a) deep motivation, b) deep strategy, c) surface motivation, d) surface strategy. Confirmatory factor analysis committed for structural validity of measure. Cronbach alpha coefficient calculated for reliability and found as 0,77.

## 2.3. Analysis of data

We use regression analysis for comparison in order to reveal existing relations between sub factors of measures both. Before analyse phase we checked basic assumptions of selected analyse, such as linearity, autocorrelation, homogeneity of variances and normality. For normality, q-q plots were examined and assumption corrected. Durbin-Watson values were between 1,5 and 2,5 and the Levene Test corrected homogeneity of variances. And finally, skewness – kurtosis values were between -1,96 and +1,96 at 0,05 significance level.

## 3. Results

Research question investigates that weather independent variables; surface approach and deep approach predict sub factors of online self-regulation behaviour; environmental structuring, goal setting, time management, help seeking, task strategies and self-evaluation or not. According to this question analyse results listed below.

- Deep approach has significant effect on Environmental structuring (P= 0.00, R2=0.226).
- Surface approach has significant effect on Environmental structuring (P=0.007, R2=0.024).
- Deep approach has significant effect on Goal setting (P=0.00, R2=0.065).
- Surface approach does not have significant effect on Goal setting. (p=0.835)
- Deep approach has significant effect on Time management (p=0.00, R2=0.079)
- Surface approach does not have significant effect on Time management (p=0.201).
- Deep approach has significant effect on Help seeking (P=0.00, R2=0.155).
- Surface approach has significant effect on Help seeking (P=0.001, R2=0.035).

- Deep approach has significant effect on Task strategies ( $P=0.00$ ,  $R^2=0.101$ ).
- Surface approach does not have significant effect on Task strategies ( $p=0.197$ ).
- Deep approach has significant effect on Self-evaluation  $R^2=0.129$ .
- Surface approach has significant effect on Self-evaluation ( $P=0.001$ ,  $R^2=0.035$ ).

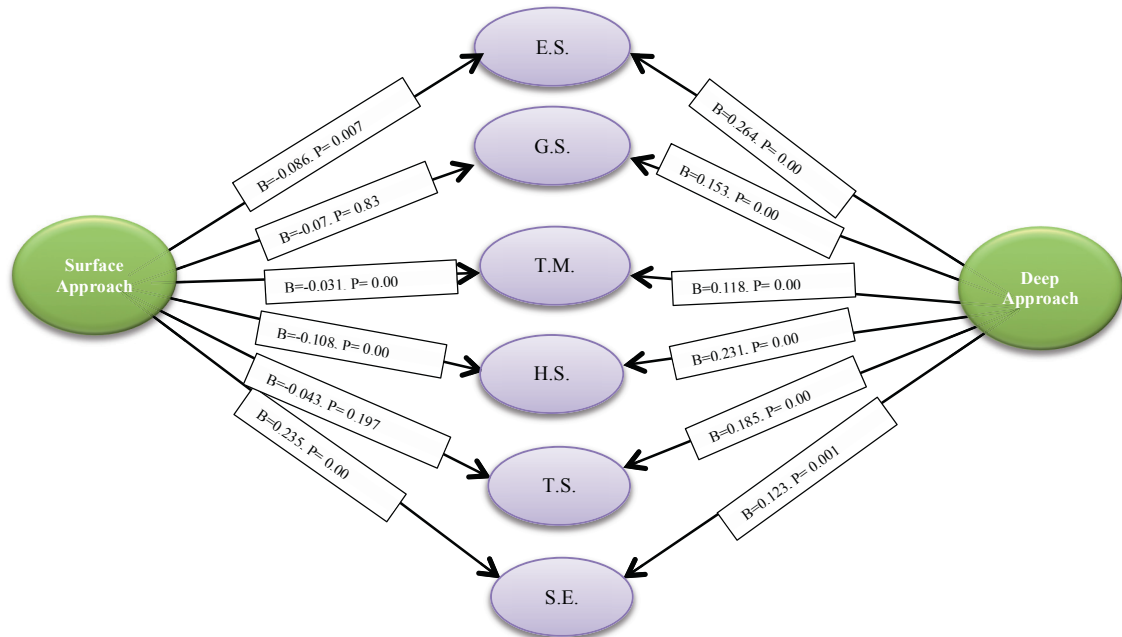


Figure 1. Diagram of the relationship between online self-regulation and learning approaches

In the other words, while deep learners set learning goals for their own, surface learners do not. Besides deep learners use time management skills to accomplish learning objectives, on the other hand surface learners do not. While deep learners use task strategies for achieving goals, surface learners do not. Both, surface and deep learners organize their learning environment. Furthermore, they both look for help when they need and finally evaluate their own learning in an online distance learning environment.

#### 4. Conclusion

Research findings show that learning approaches have statistically significant effect on online self-regulation behaviour. Because of learner autonomy, self-regulation is vital for effective learning in online learning environments. In the other words quality and quantity of learning determined by learning approach (Bati et al, 2009). Hence, the quality of learning outcomes can be improved by using appropriate methods to adaptation of deep approach by distance learners. Biggs (1985) defined SRL as a set of motives and strategies which compromises the learners motivation towards the task and strategies used to accomplish learning goals. From this point of view, research findings suggest that, distance education providers must take into account learner motivation in instructional design. Further studies may focus on effects of motivation on learning approaches and research can be repeated in different distance educations settings.

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