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| RESEARCH ARTICLE

Factors Influencing Students' Adoption of Different Approaches to Learning

El Hacen Moulaye Ahmed
Professor of English Linguistics at the Faculty of Letters and Human Sciences, University of Nouakchott; Head of Academic Affairs, in the Faculty of Arts and Human Sciences, University of Nouakchott
Corresponding Author: El Hacen Moulaye Ahmed, **E-mail**: hacentwo@hotmail.fr

| ABSTRACT
The current paper endeavors to search on factors that influence students' adoption of different approaches to learning. It is underpinned by a review of two chapters: Price's (2011) "Modelling Factors for Predicting Student Learning Outcomes" and Baeten, Kyndt, Struyven and Dochy's (2010) "Using Student- centered Learning Environments to Stimulate a Deep Approach to Learning." The chapters are chosen because they represent heuristic and representative models of factors affecting the students' choice of learning approaches. Price's model categorized the factors into two broad categories, presage factors and conception factors each of which falls into sub-categories. The former encompassed personological and situational factors, each of which deals with the context, and the latter is composed of the teachers' conception of teaching and the students' conception of learning. Baeten, Kyndt Struyven and Dochy's model listed three categories, contextual, perceived contextual and student factors as promoters of and hinderers to student's adoption of a particular learning approach.

| KEYWORDS

Learning approaches; factors of learning; Students; teachers

| ARTICLE INFORMATION

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1. Introduction

Research on the differences among students in how they approach a particular task has developed since Marton and Saljo's first identification of the concept of approach to learning in the seventies (Cano, 2007, p. 132). Approaches to learning are regarded as a "description of acquired intentions, motives and strategies," which the students use when they engage with learning materials (Evans, 2006, p.157). Lublin (2003) argued that there are three different approaches to learning: deep, surface and strategic or achieving. He added that strategic approaches are adopted by those students whose goal is just to obtain high grades and other rewards (pp. 3-4). In addition, Baeten, Kyndt, Struyven and Dochy (2010) demonstrated that "while some students made use of deep learning processes, which were associated with an intention to understand, others used surface learning processes in order to reproduce the learning materials" (p. 244). As the above citations demonstrate, it is clear that the ways students engage with learning materials are not stable psychological traits but are determined by different factors. Some of these factors are in the teacher's sphere of influence and others in that of the student, (Vermunt, Richardson, Donche & Gijbels, 2013, p. 251).

This paper thereby seeks to lay out the factors which can influence student approaches to learning tasks. In so doing, it covers two articles, Price (2011) "Modelling Factors for Predicting Student Learning Outcomes in Higher Education" and Baeten, Kyndt, Struyven and Dochy (2010) "Using Student- centered Learning Environment," each of which is discussed in separate section. The articles were chosen because they map out the factors that influence students' adoption of learning approaches described in literature. For instance, while some studies divided these factors into two main categories: students-related variables such as motivation, and conceptions of learning and contextual factors such as assessment, and teaching approaches (Spencer, 2003, pp. 2-3), others stated that beside personal and contextual factors, perceived contextual ones such as workload and task complexity can influence student's approaches to learning (Vermunt, Richardson, Donche & Gijbels, 2013, p. 275).

2. "Modeling Factors for Predicting Student Learning Outcomes in Higher Education"

Underpinned by a review of a wide body of literature that portrays factors that influence students' approaches to learning, Price (2011) argued that such factors can be summed up in two main categories: presage factors and conception factors (p. 1). As the names suggest and as shown in the upcoming discussion, it seems that Price squeezed several factors under the rubric of each category. Presage factors, as the name suggests, are those factors that exist before the learning takes place and, as Price argued, encompass two broad types, personological and situational factors, each of which deals with the context. Price asserted that personological factors refer to the students' social context such as family environment which he claimed has an important influence on students' adoption of a particular learning approach. Price, however, did neither further elaborate on both what he meant by the family environment nor on the type of learning approaches which students are likely to adhere to as a result of their family's environments. To disambiguate these points, Cano (2007) asserted that family environment refers to family educational background, thereof, on the one hand, the higher the educational level of the parents is the high the students will score on the deep approach; on the other hand, "the lower the educational level of parents, the more likely that the students would employ a superficial approaches" [surface approach] (p. 134) [*reference added*]. This shows that the family's degree of education contributes to the ways their children go about their learning.

Drawing on the situational factors, Price asserted that they refer to the setting where the learning process takes place. In other words, situational factors refer to the professional context where the teacher operates- institution or university. Price argued that if the teacher's approach of teaching is not aligned with the institutional conception of teaching, the teacher has to adapt the institution modus operandi. Therefore, the professional context becomes the determiner not only of the ways in which the teacher approaches teaching but also of the ways in which the students approach the learning. For example, Price stated that if the institution valued the conventional lecture, the teacher has to adapt this strategy. In this case, the teacher is leading the students to adopt the surface approach because the traditional lecture is rarely an adequate context within which to support and engage students in the learning task. This reveals that students' approaches to learning are a result of a compromise between the teacher and the institution's conceptions of the teaching approaches.

In a similar vein to presage factors influences on students' approaches to learning, Price argued that perception factors have a strong influence on students' approaches to learning. Conception factors refer to the ways in which students conceive learning and those in which the teacher conceives teaching. Price asserted that there is a direct link between students' perceptions of learning and the way they approach a particular learning task. This link is illustrated in the following table.

Student Conceptions of Learning	**Student Approaches to Learning**
Learning as the increase in knowledge	Surface
Learning as memorization	Surface
Learning as the acquisition of facts, procedures etc., which can be retained and/or utilized in practice	Surface
Learning as the abstraction of meaning	Deep
Learning as the interpretive process aimed at the understanding of reality	Deep

(p. 7)

The above table indicates that different conceptions of learning reflect different approaches to learning. For instance, it seems that students who concentrate on the sign as in the content are oriented to a surface approach; however, students who focus on what was signified, comprehending what was conveyed and applying what was internalized are oriented to deep approach.

In addition to students' perceptions of learning influence on their approaches to learning, teacher's conceptions of teaching have a strong influence on how they approach teaching which in turn influences how students approach learning. The mapping of these influences is illustrated in the table below.

Teachers Conceptions of Teaching	**Teachers Approaches to Teaching**	**Students Approaches to Learning**
Transmitting concepts of syllabus	Teacher focused- transmission of information	Surface
Transmitting the teachers knowledge	Teacher focused- transmission of information	Surface
Helping students acquire concepts of syllabus	Teacher focused- students acquire discipline concepts	Surface
Helping students acquire teachers knowledge	Teacher- student interaction- students gain teachers knowledge through engaging	Surface
Helping students develop conceptions	Student centered- students develop their conceptions	Deep
Helping students change conceptions	Students centered- students change their conceptions	Deep

(p. 11)

This table demonstrates that the teacher who conceives teaching as a mere imparting of knowledge is teacher- centered and content- oriented. In other words, the teacher who conceives of teaching as the transmission of information also conceives of learning as the accumulation of information. In this case, the teacher positivity rewards the students and thus encourages them to adopt a surface approach; by contrast, the table also shows that the teacher who considers himself or herself as a facilitator conceives teaching as student- centered and learning as learning- centered. In this regard, the teacher encourages the students to take an active role in the learning process (to become involved in the learning and to be thoughtful about the content) thus enhancing the students to take a deep approach to their learning in the subject.

In the end, Price's chapter succeeded, to some extent, in gathering and explaining the possible factors which might influence the students' inclination toward a specific approach of learning. She brought together a variety of studies on learning approaches to present a conceptual map of the more immediate influences on students' approaches to learning. She argued that factors that influence students' approaches to learning fall into two main categories presage factors, which may be grouped into personological and situational factors, and conception factors which encompass the student's conceptions of learning and the teacher's conceptions of teaching. While the presage factors were discussed in the literature through addressing several factors such as prior knowledge and age for personological factors and workload and assessment for situational factors (Schmidt, Goh, Yew & O'Grady, 2012, p. 115), Price curtailed each of them to one factor- family environment for personological factors and professional context for situational factors. In addition, she superficially draws on the family environment influences on students' learning approaches. This led to other researchers' discussion to this point. For example, Cano asserted that the deep approach is associated with a family with a high level of education and the surface approach with a family with a low level of education (2007, p. 134).

Price, furthermore, argued that the way the institution conceives of teaching bears on the students' approaches to learning. For instance, if the institution encourages the teacher to lecture instead of debating or discussing the subject, it leads the students to adopt a surface approach. Comparatively, Price elaborated more on conception factors than on presage ones; she affirmed that students' conception of learning influences their approaches to it. For example, students who consider learning as an accumulation of knowledge tend to adopt the surface approach, while students who conceive it as life-supporting adopt the deep approach. Similarly, to use Edward Said's words, teachers' conceptions of teaching lead the students to be either active actors or passive reactors (Said, 1978, p. 109). For instance, the teacher who sees teaching as transmitting knowledge gives less chance to the students to develop their cognitive ability and thus orients them to the surface approach. The teacher who views teaching as a process aimed at bringing about conceptual change, rewards independent enquiry and intellectual independence and thus encourages the students to adopt the deep approach.

3. "Using Student- centered Learning Environments to Stimulate a Deep Approach to Learning: Factors Encouraging or Discouraging their Effectiveness"

The above is an article by Baeten, Kyndt Struyven and Dochy (2010) in which they outlined what they considered as "encouraging and discouraging factors" in stimulating student's adoption of a particular learning approach. These factors are grouped in three categories: contextual, perceived contextual and student factors. Each of these encompasses different components. To begin with contextual factors, in the context where the student learns, Baeten, Kyndt, Struyven and Dochy identified three factors which influence the students' approaches to learning: assessment, feedback and teacher. To start with, assessment is thought to be the most powerful influence of all on how students approach learning in a subject. The type of assessment the teacher uses plays a major role in orienting students toward a particular approach to learning. The authors, for instance, claimed that portfolio assessment (assessing the student's collection of work) (Smith, Smith & Lisi, 2001, p. 20) enhances students' deep approach to learning. However, a significance increase of students' adoption of the surface approach was the result of teacher assessment with multiple choice examinations- any assessment where different answers are given to one question (Mashaba & Brink, 1994, p. 84). This demonstrates that the deep approach is fostered when the teachers regard assessment as an ongoing process because, in this case, the students are likely to be committed to the assignments the teacher gives them, and as Falchikov (2005, p. 57) reported "the more coursework students complete, the better they do in terms of depth learning." However, multiple choice examinations are associated with the surface approach because, in this case, the given answers are close in meaning; thus, the students have to memorize the subject in order to select the right answers.

Furthermore, different types of feedback affect students' learning approaches. For example, whereas students who receive feedback through an internet based group system support score high on the deep approach, students who receive this feedback face to face tend to employ the surface approach. This citation implies that because of negative feedback students prefer anonymity, which is a characteristic of internet based group support (Hayen, Swaby, & Huang, 2007, p. 122). Therefore, it can be said that if the teacher does not give feedback to his or her student in front of their classmates, the students will think less about the points they will make in terms of being right or wrong, and thus they will adopt the deep approach. However, if the teacher gives feedback to his or her students in front of their classmates, the students will not react to any raised issues unless they think what they are about to say is right. In this respect, the students are likely to be surface-approach oriented.

Beside assessment and feedback, the teacher's approaches to teaching correlate with the students' approaches to learning. Baeten, Kyndt Struyven and Dochy reported that the teacher whose aim is to change students' conceptions/student-centered encourages students to adopt the deep approach. This reveals that the teacher who adopts student- centered approach fosters students to develop their cognitive abilities through analytical and critical thinking. Conversely, the teacher who thinks of himself or herself as the only source of information and that his role is to transmit knowledge/teacher- centered is more likely to be teaching students who report a high use of the surface approach. This illustrates that the teacher who spoon-feeds the students with information and expects them to absorb it passively is, in fact, driving them to adopt the surface approach.

In additional to context factors, perceived contextual factors exert a crucial influence in the students' selection of learning approach. Otherwise stated, students' adoption of learning approaches is not only influenced by the learning environment, but also by the way they perceive it. In this respect, Baeten, Kyndt Struyven and Dochy argued that the students' perceptions of workload and supportiveness affect their learning approaches. Concerning workload, they argued that heavy workload is positively associated with the surface approach. Indeed, in this case, the extreme likelihood suggests that the students will resort to a perfunctory job in order to satisfy the class requirements; in contrast, if the students perceived the workload as appropriate, they are likely to opt for the deep approach. This connotes that appropriate workload gives the students the opportunity to go through: read, comprehend, apply, analyze, synthesis and evaluation parallelism (Bloom, 1956 cited in Teele, 2004, p. 3). Beside workload, the way in which the students perceive supportiveness bears on the way they go about their learning. Baeten, Kyndt Struyven and Dochy asserted that perceived teaching support such as giving general support, encouragement for students' learning fosters their adoption of the deep approach. This shows that positive feedback correlates positively with the deep approach. In other words, a significant increase of students' interest and involvement in the subject under study is likely to result from the teacher's support since the students will strive to meet his/her expectations.

Finally, student factors (or personal traits) refer to "the unique features of every human being; exhibition of characteristic adaptations; unique identifications towards life and a set of cultural differences" (Ibrahimoglu, Unaldi, Samancioglu & Baglibel, 2013, p. 2). Baeten, Kyndt Struyven and Dochy asserted that student factors such as age and personality can predict the students' learning approaches. To begin with, age is significantly positively correlated with the deep approach and negatively with the surface approach. In a similar vein, Zhang and Sternberg (2006) reported that because "from adolescence to adulthood the level of abstraction increases, children are more field dependent, and their field independence increases as they grow into adulthood" (p. 43). This illustrates that the students' conceptual differentiation changes over time and thus the way they approach learning. For example, with maturation the students' thinking shifts from leveling/surface approach to sharpening/deep approach.

Moreover, personality influences students' approaches to learning. Baeten, Kyndt Struyven and Dochy argued that openness to experience such as being imaginative and intellectually curious is positively associated with the deep approach and

negatively with the surface approach. This shows that students who ask questions about what they are learning are likely to score high on the deep approach, unlike students who consume information the way they received it- surface approach. Correspondingly, Baeten, Kyndt Struyven and Dochy maintained that whereas, extraversion (being sociable and active), conscientiousness (being responsible and hard-working) and agreeableness (being compassionate and trustworthy) are positively related to the deep approach, neuroticism (being anxious and pessimistic) is positively related to the surface approach. This shows that the students who are risk-takers and autonomously motivated are likely to approach learning with a critical mind. Conversely, students who are inhibited and/or unmotivated are likely to limit their study to the bare essentials.

In summary, this article yielded a lot of possible factors that can influence students' adoption of a particular approach to learning in a particular context. It is worth mentioning, however, that because the development of these factors was not equally balanced, this paper drew on other studies to either explain concepts or bring more evidences to some general statements made by the authors. In general, Baeten, Kyndt Struyven and Dochy grouped these factors into three categories contextual factors, perceived contextual factors and student factors. Concerning contextual factors, it was demonstrated that the relationship between the teacher and the students is crucial in orienting students to a specific learning approach. For instance, through giving positive feedback, relying on portfolio assessment and adopting a student- centered approach, the teacher leads the students to adopt the deep approach. In contrast, if the teacher adopts a teacher- focused approach, s/he tends to give negative feedback, and relies on means of assessment that require memorization, his or her students are likely to employ the surface approach.

Besides, Baeten, Kyndt Struyven and Dochy proposed that learning approaches are not only a function of the context but also the way students conceive the context together with their characteristics, they can modify them. The way students perceive the workload, supportiveness, their age, and personality are related to, and predictive of, the approaches to learning that they adopt. When the students perceive they are overloaded, they fall back on the surface approach in order to cope with the class requirements; nevertheless, appropriate workload and the teacher's support encourage students to adopt deep approach. Furthermore, the authors asserted that high level of abstraction is associated with maturation; as a result, children are likely to score high on the surface approach while adults are likely to score high on the deep approach. Moreover, it was reported that the students' personalities bear on the way they approach the learning task. For instance, extroversion and trustworthy/self- esteem foster students' adoption of the deep approach whereas introversion and anxiety encourages students' adoption of the surface approach.

4. Conclusion

Based on the two articles, Price's "Modeling Factors" and Baeten, Kyndt Struyven and Dochy's "Using Student- centered Learning," a concerted effort was invested to report on factors which determine how students approach a particular task in a particular context. There were many threads to this argument and different positions have been taken about the key factors in students learning which should be considered and thus the way these factors should be grouped. On the one hand, Price argued that these factors are bipolar: presage factors and conception factors. In presage factors, he asserted that students' families' educational backgrounds and the professional context/institution's promotion of a student- centered approach are positively related to the deep approach and negatively to the surface approach. Furthermore, Price asserted that when both students and teacher perceive learning as accumulation of information, the result is likely to be the students' adoption of the surface approach. However, when their mutual aim of learning is to promote critical thinking a high score on the deep approach is likely to be achieved.

On the other hand, Baeten, Kyndt Struyven and Dochy proposed a ternary division of factors of possible influence on students' approaches to learning: contextual factors, perceived contextual factors, and student factors. In contextual and perceived contextual factors, they demonstrated that negative feedback, multiple choice examinations, and heavy workload are likely to push students to go through, in Spencer's words (2003, p. 5), "swot, pass and forget syndrome;" in contrast, positive feedback, portfolio assessment and appropriate workload are likely to stimulate students' interest, lead them to question the established tenets and to develop cognitive skills. Moreover, individual characteristics influence students' approaches to learning. For instance, it was found that the students' faculties of understanding develop as they grow into adulthood. Thus, while adulthood was associated with the deep approach, childhood was associated with the surface approach. Likewise, extroversion and agreeableness were positively associated with the deep approach and negatively with the surface approach. Finally, while the nature of factors that may influence students' adoption of learning approaches is an area of debate and contestation, these researchers have shown that what they have in common is the idea that students' adoption of a particular learning approach is not only a result of his or her individual characteristics but also of the learning situation influence. Therefore, they should have grouped their factors into two main categories: student factors and contextual factors.

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