Does the Implementation of the Bologna Process in Higher Technical Education Require a New Approach to Motivate the Actors Involved in the Educational Process?

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Abstract-The authors aim to analyze different types of motivation and the methods of maintaining motivation throughout the learning process for both students and professors, in terms of the characteristics of the Bologna process, whose central concept is "the student - a partner in the educational process". The paper is based on a significant amount of literature which analyzed motivation theories both from a managerial perspective (a normative approach) and a sociological one. The paper analyzes and identifies matches and gaps among the demands and rigors of higher technical education, the requirements of the Bologna process and the current social norms. These gaps may result in the weakening and ultimately the loss of motivation of the involved actors – the student and the professor. The results affect the quality and eventually the sustainable development of higher technical education.

Keywords- theories of motivation, Bologna process, higher technical education organizations

I. INTRODUCTION

More than ten years after the signing of the Bologna Declaration, its implications represent a much debated topic. In this context, starting with the key findings of specialized literature and benefiting from the authors' educational experience, the paper analyzes the potential discrepancies between the demands of higher education, the Bologna process requirements and the existing social norms. These discrepancies may result in the weakening and ultimately the loss of motivation of the involved actors - the student and the professor. These results ultimately affect the quality and the sustainable development of higher technical education.

The first part of this paper briefly presents the best known theories of motivation, trying to highlight particular aspects of the educational process. The second part analyzes the features and the implications of the transition points towards a "student-centered education". As a conclusion, the paper gives recommendations.

II. THEORIES OF MOTIVATION. PARTICULAR FEATURES OF THE EDUCATIONAL PROCESS

Motivation theories abound, they complete each other and they examine various aspects of this phenomenon. The criteria according to which these theories are classified are diverse. Some studies analyze the extrinsic motivation in parallel with the intrinsic motivation [3] [6]. Another approach classifies the motivation theories according to the "motivating factor" [6]. This paper will present the best known theories based on their classification into two categories - content theories (need theories) of motivation and process theories of motivation [2] [6].

A. CONTENT THEORIES OF MOTIVATION

Content theories (need theories) of motivation focus on identifying internal factors (needs) that define each individual. These factors lead individuals to develop a certain behavior. Under this category fall many theories, most notably are [2] [6] [11]:

A1. NEED HIERARCHY THEORY. This theory was developed by Abraham Maslow (1908-1970). The central concept of the theory is the "pyramid of needs." This structure ranks one's needs on five levels: (1) physiological needs (hunger, thirst, sleep, etc.), (2) needs of physiological and psychological security (health, shelter etc.), (3) needs of affiliation (love, friendship and belonging to a group), (4) needs of self-esteem/recognition and (5) self actualization needs. One of the premises of this theory is that a superior need arises only after the inferior need was fully satisfied. Despite its popularity, this theory was often criticized. The main criticisms of theory are [6]:

- the theory confuses biological determined needs with the needs arising from socio-cultural determinations, such as the desire for membership to certain groups or organizations, esteem, prestige, etc.

- there is no single universal model of motivation, but various models in relation to the socio-cultural environment, one's personality and orientation of values, the nature of organization management etc.
- the hierarchy of needs has not been empirically confirmed.

Regarding the educational process, professors, particularly those in higher education, have especially self-esteem, recognition and self actualization needs. All of these are located on the highest spots of the "pyramid of needs" [1].

A2. ERG THEORY. This theory is based on the concept of Clay Alderfer (born in 1940), which argues that an individual manifests three categories of needs. The first are existential needs. They are satisfied by food, air, reasonable working conditions and earnings. Such needs must be met before other needs. The second are relational needs. These are met by establishing and maintaining interpersonal relationships with colleagues, superiors, subordinates, friends and family. Meeting these needs depends on the report with the other: either hostile or friendly. The third category belongs to needs of progress (growth needs), embodied in the individual's trying to find opportunities to develop his own person.

Criticisms of this theory are very similar to those of the "hierarchy of needs", rejecting the idea of a single universal model. These objections are supported by studies that have shown that relations between the three categories of needs are influenced by factors such as sex or education of the individuals [6].

A3. TWO-FACTOR THEORY. This theory was created by Frederick Herzberg (1923-2000). Its peculiarity resides in defining satisfaction and dissatisfaction as two distinct states rather than variations of the same continuous. Each state is determined by different factors. Satisfaction is determined by motivating factors (work intrinsic factors: challenging work, recognition, responsibility recognition, promotion), while dissatisfaction is determined by the state of the hygiene factors (work extrinsic factors: technical assistance, wages, working conditions, interpersonal relationships, status) [11]. This approach shows that an individual can be simultaneously satisfied and dissatisfied [6].

Criticisms of this approach are attributed mainly to the methodology used in the theory constructing, namely the investigation based on introspection, the achieving a very direct relationship with performance, the lack of differentiation between satisfaction and dissatisfaction [6]. All of these give the respondents the possibility to distort reality, by attributing the good results of their activity to themselves and the poor results to others [11].

A4. Z THEORY. This theory, developed by William G. Ouch (born in 1943), highlights the socio-cultural differences between American and Japanese cultures in terms of labor and management. The Japanese model "is a culture of common goals; rather than relying solely on hierarchy and control of direct behavior, it is based on commitment and trust" [6]. According to Z theory, the process of motivation emphasizes the goals of the organization and not the individual's needs satisfaction. This points the subordination of the individual to the collective opinion.

This Z model is suitable for those socialized in a collectivist culture, like the Japanese culture and cannot be "exported" to various socio-cultural environments. However, the main contribution of the Z theory is proving that there are no universal motivational models [6].

B. PROCESS THEORIES OF MOTIVATION

The central focus of these theories is to identify the ways in which individual motivating factors interact and influence one's behavior [2] [6]:

B1. EXPECTANCY THEORY OF MOTIVATION. This theory was developed by Victor Vroom (born in 1932). The premise of the theory is that the perception of needs determines human behavior and that the intensity of motivation depends on the degree to which the individual wants to adopt a certain behavior. This desire may increase or decrease, resulting in the fluctuation of motivation intensity.

Key concepts in operating this theory are [6] [11]:
- the first level results - job related behavioral outcomes (e.g.: productivity, absenteeism, profit etc.)
- second level results - positive or negative rewards so that the results of the first level are likely to occur (e.g.: pay increases, promotion, job security);
- expectancy - refers to the belief that an effort will be followed by a certain level of performance;
- valence - refers to an individual's preference for a particular result of second level;
- instrumentality – points to the relationship between the results of the first level and second level results; if the person is not rewarded according to performance, demotivation appears.

B2. EQUITY THEORY. If we classify motivation theories into individual theories and group theories, equity theory is part of the second category [6]. This theory was proposed by Stacy Adams and Kare Weick and is based on the phenomenon of "cognitive dissonance" as defined by Leon Festinger (1957).

The concepts of the theory are social comparison and the perceived objectivity of the individual from his employee's position. The Equity Theory explains satisfaction in terms of perceptions of fair/unfair distributions of resources within interpersonal relationships. Inequality occurs when there is a significant difference between the inputs-outcomes ratio of an employee's and the inputs-outcomes ratio of other employees. Perception of inequity will create tensions in the individual and can result in behavioral changes such as [11]:
- increasing rewards by requiring supplementary salary increases or legal action to obtain additional compensation;

- changing jobs to better tailor the way they are compensated; for example, if people think they are poorly paid, they will reduce their work effort;
- change perceptions of inequity by the deflection of the situation in certain positions of employment, or leave the group/organization working to reduce the source of inequity

B3. GOAL ORIENTATION THEORY. Considered a group theory, it is based on principles of objective based management. The theory considers that the purpose or intentions have an important role in determining behavior, emphasizing the nature and cause of well-designed programs focused on clear goals for employees [6].

B4. ATTRIBUTION THEORY. The initiator of this theory is Fritz Heider (1896-1988). The attribution is "the process by which people interprets the perceived causes of behavior" [6]. Although the attribution comes from the social psychology field, it also has applications in motivating individuals. The basic assumption of this theory is that people want to understand their environment and the causes of individual events. If people can understand the causes of events, they will be able to better influence future events [6].

Fritz Heider considers behavior as a combination of internal and external factors. Internal factors refer to personal characteristics: intelligence, skills, degree of fatigue, etc. The external factors take into account environmental factors, such as organizational rules, weather etc. [6].

Harold Keller developed this theory and sought to identify key antecedents of internal and external awards. He made the assumption that people orient their behavior towards internal forces or personal factors when they perceive low differences and consensus and high consistency. Behavior is attributed to external factors (external award) when people perceive a high contrast, high consensus and low consistency [6].

B5. LAXIST THEORY. This theory was developed by H.H. Hyman and was used in mobility and social stratification in order to describe the lack of motivation in mobilizing efforts to achieve goals considered as unattainable by the individual.

The theory is based on the assumption of the rational individual, who is able to analyze and accurately assess the situation and place his motivation and satisfaction at the optimum level of achievable. "Defining the situation" is determined by personal factors and contextual factors. Personal factors can refer to the social environment of origin (parents' occupation, nationality income, number of children, etc.) and some individual characteristics (age, gender, education, training, etc.) Conjuncture factors have in mind the social requirements for certain positions, competitive access to these posts etc. [6].

Based on the interaction between personal factors and the situation factors, a man will define the situation, will assess the various opportunities associated to certain objectives and choose to focus their efforts to target the objective most likely to achieve. In this case, the motivation is subordinate to performance. The less ambitious the motivation, the more reliable the performance and the higher the satisfaction. When asked the (motivational) question "Why do you wish X?" an individual will respond "Because I can do it."

Laxist Theory opposes the alternative that the higher the aspiration is, the higher objectives will be aimed at, the bigger efforts will be made and the higher performance will be achieved. The risk of adopting this is that a mediocre effort exposes the individual to the possibility of not achieving his mediocre objective.

It is worth noting that almost all theories presented are based on research conducted among employees of profit organizations. Also, all examples and recommendations are directed to the same kind of organizations. References to the motivation in the educational process are rare and can be found particularly in the educational field work. In this case, the emphasis is mostly on student motivation and not so much on the teacher's, who must respect "the principle of self motivation" [10].

III. BOLOGNA PROCESS. THE STUDENT, AN ACTIVE PARTNER IN THE EDUCATIONAL PROCESS

The "Bologna process" phrase comes from the Bologna Declaration, signed by the Ministers responsible for higher education in 29 European countries, on June 19, 1999, in the Italian city of Bologna. This statement is a concept and a framework which European states have proposed in order to create a single European Higher Education in Europe, the ultimate goal being the development of competitive, knowledge-based potential to provide better jobs and greater social cohesion [13].

The Bologna Process has made the transition from a "professor-centered" higher education to the "student-centered" education. The defining characteristics of "professor-centered education" are [12]:
- approaches knowledge as a product
- the student is perceived as a passive subject in education and training
- the teacher provides "cognitive finished products, a summum of truths expressed through information taken as granted by students"
- particularly stimulates the memory and repetition capacities of students

Unlike this, "student-centered education" is characterized by [12]:
- approaches knowledge as a process
- considers the student as an active partner in building teacher knowledge (realization of educational activities, quality assessment and shaping its academic route)
- stimulates thought, imagination and creativity of students by involving them in implementing projects and resolving issues related to everyday life.

Among the many implications of this change of perspective, at least in Romania, was the definition the

Bologna Professor. In the students' view, the Bologna Professor responds to the needs of students, motivates them, helps them to ask questions, to go beyond, to want to become better every day, he helps them develop professionally and puts his imprint on their personal development, as a role model [14]. This definition highlights the complexity of some requirements to be met by a professor. On the other hand, it shows that (Romanian) students began to understand the partnership between them and the professors.

IV. COMMENTS AND RECOMMENDATIONS

It is impossible to comment on something that does not exist, namely a specific motivational academicals system, especially for higher technical education. The technical field is intentionally emphasized because it requires more effort, a longer period for knowledge accumulation and for obtaining the material benefits appropriate to one's skills. Thus, the professor' attitude is crucial in maintaining the student's interest in study. On the other hand, applying a theory without empirical testing is just as dangerous. A brief overview of the major theories of motivation revealed their socio-cultural determination. Also, focusing only on extrinsic motivation (external rewards) can be dangerous for both the professor and the student. There are studies that show that emphasizing just the material rewards without activating the one's intrinsic reasons were materialized in diminishing the pleasure of work in question, the rewards leading to a reduced motivation. The reason is that when just external rewards are given, the activity is perceived as binding, as a constraint [10].

Another observation concerns the low number of empirical research on motivation in academia. In this respect, the study conducted by Aurel Ion Clinciu (2007) on academic stress sources in the Romanian context deserves to be noted [1]. Given the importance of the socio-cultural context, empirical studies are required in order to identify both the professor's and the students' needs. The design of this research should consider specific issues such as the ways of socializing of both the professors and the students, since individuals determine their needs based on life experience [2].

Another suggestion of the authors is the definition of the Bologna Class (or year) as a model community engaged in learning. Not be overlooked that the process of "student-centered education" is bilateral, also involving the student's effort.

The issue of academic motivation is complex, firstly because of this work's character, because of its involved actors and because of its long-term consequences society-wide. It is not enough just to think about methods of motivation for professors regardless of the students, although, at first glance, the two categories of actors seem to have divergent goals and needs. Despite this, the professor is a motivating factor for his students: "an unmotivated teacher is an ineffective teacher. The motivation of the teacher translates identically in motivating the students." [10]

V. CONCLUSIONS

The paper highlighted the particular aspects of the approach required by the Bologna process in terms of motivating the actors involved in the education process and made recommendations for the sustainable development of higher education. It also stressed the importance of adapting the actors involved in education motivation to the specific implementation of the Bologna process.

The main implication of the paper is intended to be awareness of the importance of adapting the motivation of the actors involved in education, particularly in the technical field, which more effort, a longer period for knowledge accumulation and for obtaining the material benefits appropriate to one's skills.

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