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DOI: <https://doi.org/10.5281/zenodo.5779525>**MOTIVATION AND ITS CHALLENGES TO LEARNING***Cristina Dumitru TABACARU**University of Pitesti, Romania*

Motivation is crucial to education; it is a main factor that can drive humans to autonomous and independent learning. It is a complex system and it is individually organised making difficult to offer precise recommendation. A sound understanding of physiological and psychological processes that triggers human behaviours is vital to a good educational design that will flow naturally according to students' development. The article aims to do an analysis of recent and fundamental theories on motivation and learning in order to propose to educational professionals some key elements that will strengthen learning motivation and will facilitate teaching and teaching programmes designing. The ground of the article is the fact proven by a great number of studies that show great correlation between students' motivation and positive learning effects. This theoretical article addresses an important question regarding the understanding of motivation: what drives our motivational system and what interferes/competes with the motivation to learn new things, to explore and adapt to novelty (novel problem, task, event, situation, context, etc.)

Keywords: *learning, motivation, learning theories, motivation drive, intervention, development, goals.*

MOTIVAȚIA ȘI PROVOCĂRILE ÎN ÎNVĂȚARE

Motivația este crucială pentru educație; este un factor principal care poate conduce oamenii spre învățarea autonomă și independentă. Este un sistem complex și se organizează individual, ceea ce face dificilă oferirea de recomandări precise. O înțelegere solidă a proceselor fiziologice și psihologice, care declanșează comportamentele umane, este vitală pentru un bun design educațional care va curge în mod natural în funcție de dezvoltarea elevilor. În articol ne propunem să facem o analiză a teoriilor recente și fundamentale despre motivație și învățare pentru a propune profesioniștilor din învățământ câteva elemente-cheie care vor consolida motivația învățării și vor facilita predarea și proiectarea programelor de predare. Baza fundamentală a articolului este susținută de un număr mare de studii care arată o corelație puternică între motivația elevilor și efectele pozitive ale învățării. Este abordată o întrebare importantă în ceea ce privește înțelegerea motivației: ce conduce sistemul nostru motivațional și ce interferează / concurează cu motivația în învățarea de lucruri noi, de a explora și de a se adapta la nou (o problemă, sarcină, situație, nouă, un eveniment, context nou etc.)?

Cuvinte-cheie: *învățare, motivație, teorii ale învățării, motivație, intervenție, dezvoltare, obiective.*

Introduction

Motivation and learning are tightly linked as motivation drives learning and learning drives motivation, still, in academic learning the interdependent process is not that fluent and poses different challenges for both teachers and students. Motivation is fundamental to updating learning process and to maintaining interest and pursuing goal achievement. It is well known that high motivation can predict engagement and accomplishment of academic tasks e.g., [1, p.462]; [2, p.2-6]; [3, p.1-12]; [4, p.1-6]; [5, p.31-42]; [6, p.1-16]; [7, p.1-12]; [8, p.81]; [9, p.338-353]. Biological needs are the physiological and physical substrate of the motivational triggering. Maslow's hierarchy of needs [10], ERG theory (proposed by C.Alderfer, [11]), Skinner's reinforcement theory [12,13], 'The need-informational theory of emotions' (P.V. Simonov, [14,15]) are some motivational theories that explain why humans (and not only humans) are driven to learning. A.C. Koenka [16, p.1-8] is mentioning five prominent theories of academic motivation: attribution theory (B.Weiner), expectancy-value theory (J.W. Atkinson, V.Vroom), social-cognitive theory (A.Bandura), achievement goal theory (J.G. Nicholls), and self-determination theory (E.L. Deci, R.Ryan). The problem emerging is the following: even though we have a biological need for learning (organised in different programmes like exploring, novelty and curiosity, according to P.V. Simonov [14,15]), teachers struggle orienting their teaching and students updating their learning towards academic success. Motivation is determined by a complex interplay of internal and external factors. The dimension involved in motivation regulation are personal factors (expectations, self-efficacy), social (modelling, comparisons), and cognitive aspects (self-regulation); task values; goals; and perceived costs and benefits [17, p.1-8].

Theoretical background

Motivation is an intricate process that directs human behaviour to goal attainment. It is defined as the process that triggers and sustains goal-directed activities [18, p.234-238], leading to several outcomes such

as choice, effort, persistence, achievement, and environmental regulation [19, p.1-10]. Motivation can also be defined as one's route prompting to certain behaviour, or to the construct that triggers someone's desire to replicate behaviour and vice-versa [20, p.1-8]. Humans are driven to behave by internal (unconsciously) and external (consciously and/or unconsciously) forces. We are biologically driven to fulfil some biological programmes (like reproduction, adaptation, survival) and some value-oriented goals (that according to biological claims and researches have a physiological substrate as well [21, p.2]. Researches [22, p.425] propose an operationalisation of motivation according to goals, goals that are "distributed and multi-factorial, including biologically and affectively salient outcomes, sensory-motor plans, and integrated utility representations". By nature, we are compassionate creatures, capable of altruistic and empathetic attitudes and behaviours and it seems that civilization, society makes us more competitive and aggressive creatures. A remark can be done according to the above claim regarding the difference between learning and education: learning is biologically driven and education is imposed by societal standards. With regard to that, the best way is to go with the natural flow and create an education that is taking into account the nature perspective on learning when designing an educational system and a learning environment for our students. Nature is teaching us the best ways for learning, by installing in our bodies programmes that can activate mental actions that would facilitate development and the pursuit of positive emotions. Variability and diversity are principles to take into account while designing educational and learning programmes, as we are very diverse and individualistic and a good learning approach will have to take that into account. A one's-tailored programme that expects everyone to enjoy learning and perform according to a prediction doesn't take into account the variability and diversity of human life. Needs, desires, drives, expectations, aspirations are common but they are distributed, activated and competing-and-winning differently in each one of us. Learning designed by educational programmes in a certain way will motivate just a certain number of students, others will fall behind. Studies [23, p.12-23], [24, p.338-353] show that independency, openness and freedom are programmes that can be activated and practiced leading to autonomous motivation, and this in turn, lead to higher enjoyment, value and lower pressure. Autonomous motivation is described by M.N. Gagne [25, p.331-362] in relation to intrinsic motivation and hence the importance of educating and developing it in students. According to M. N. Gagne [25, p.334-336], to have autonomous motivation means to be able to act with a sense of volition and to get to choose, experience the choice. Autonomy involves acting with a sense of volition and having the experience of choice. Students are more likely to engage in learning activities naturally, by doing so out of curiosity and the desire for optimal challenge, this optimal challenge (not too easy, not too difficult, that reminds us of Vygotsky's Zone of Proximal Development) [26, p.187-189] is what keeps them more engaged in learning tasks and satisfied with their learning) [27, p.159-189]. Motivation is bidirectional and dynamic, therefore contextual influences on motivation are crucial, which means that there are "hierarchies" of motivational beliefs rather than isolated, specific ones [28, p.1].

Research question

The question that the study is addressing is the understanding of motivation: the need to explain what drives our motivational system and what interferes/competes with the motivation to learn new things, to explore and adapt to novelty (a novel problem, task, event, situation, context, etc.) The article aims to determine the complexity of problems that motivational system has to solve and how to ensure that from all competing problems that the brain has to deal with, academic learning would prevail. Even though it is known that learning outcomes are correlated with students' interest and engagement, the teachers have hard times arousing the interest in academic learning and keeping the curiosity alive. It seems that for the motivational terrain, academic learning is competing with other programmes (like saving energy) [29, 21]. To understand the phenomenon, it is important to investigate it from a double perspective, the material one which is investigating the mechanism of the process, the neurophysiologic substrate, and the subjective or ideal one which offers its content and meaning, its "relation to the objects of the external world that it reflects and the needs of the subject" [21, p.5] – the psychological substrate. According to the Russian scientist, P.V. Simonov, this double perspective is important while investigating processes like needs, motivations. In relation with the above-mentioned claim, we investigated and tried to identify some theories to support decision-making in pedagogical choices in accordance to biological and psychological needs of students to foster activism, engagement and academic learning achievement. In order to be easier to analyse learning motivation, we picked up a learning task that students need to master, writing an essay, and tried to discuss based on the theoretical background expressed above.

Learning motivation in writing an essay: from intrinsic and extrinsic

Writing is often seen as a challenge, writing an essay is even more difficult, because there is an increased risk of failure [7, p.1-12]; [30, p.1-8]; [15, p.13]). Writing is also an inherently valuable cultural activity, especially writing an essay [31, p.19-31]. It involves long-term work, perseverance objectives-setting and control of goal pursuit, meta-cognitive monitoring. We decided that it is a good example of learning task, as it follows theories [21, p.194-195]; [32]; [33, p.328-346] with regard to the ratio known/unknown, actual/proximal zone of development that will consequently arouse students' interest and engagement. Although it seems not easy at all, motivation is being determined by a complex interplay of internal and external factors, oscillating from intrinsic to extrinsic or vice-versa. Intrinsic drive is the need of the student to explore and try to understand the unknown and to achieve a task encounter in their daily school life – writing an essay, but that is not the only drive competing in determining the students to take decision and act upon them. A.R. Wilhelm [34, p.137-146] has done an interesting study whose results show that difficult trials keep attention focused, by enhancing cortical motor-action preparation.

According to P.V. Simonov [21,29] students (or more exactly, students' brain) have to assess all needs, drives and motivation manifesting themselves into a certain moment and to estimate the probability (possibility) of need satisfaction on the basis of phylogenetic and ontogenetic experience. So, writing an essay is effortful, energy-consuming, with no immediate reward, as it takes some time to achieve the result and to receive some positive validation from teacher, colleagues' feedback and positive emotion. Obviously, there is a diverse range of leisure, fast-rewarding activities that can win the triggering and behaviour launch. Teachers' task is crucial in manipulating the context (extrinsic motivation) in order to keep the learning activity going so that the finalising the activity would boast the increase of positive emotion (intrinsic motivation). The teacher's role is to choose the right amount of challenge for each of their students in order to create the appropriate challenge that would activate the learning and the engagement (derived from the human programme for novelty, exploration of solution to problem encountered) of the student in the writing task. Another important aspect is to manipulate educational conditions (based on Skinner's learning theory), for example, going from students' interest in choosing the subject of the essay and leading slowly to more complex and academic ones. The prominent theories of academic motivation cited in the article introduction distinguish between intrinsic and extrinsic motivation. A.R. Wilhelm [34, p.137-146] is suggesting that intrinsic motivation is important in sustaining academic learning and is primarily linked with behavioural measures of performance and learning.

Prior research [7, p.1-12]; [34, p.246-263]; [6, p.4-6] shows that it is crucial how students perceive the challenge and what does it mean to them, how do they relate to the situation, how stressful and demanding it is perceived and what coping strategies are initiated. The difficult part in writing an essay, according to students' responses, is to start writing; going from not writing to writing the first sentence is challenging, and can be overcome by practicing, writing, and as far as the writing process is launched, it becomes each time better, and that's the learning progress and motivation that drives going forward. Practice makes learning efficient, but each time the teacher should make the activity sufficiently known, so that students feel comfortable, but at the same time sufficiently new, to make it interesting and spark curiosity. Retrieval practice can boost memory and long-term retention, and retrieval practice plus feedback "can increase motivation to keep on studying, potentially by making one's own progress in learning more transparent and enhancing experience of competence" [1, p.1]. Other studies [35, p.12-23, 30, p.8]; [36, p.19-31] confirm that appropriate levels of difficulty accompanied with the support of the teacher or other supportive systems allow students to control and influence their learning by taking decisions. C.P. Cerasoli et al. [30, p.1-10] highlight the relation between intrinsic motivation, mastery goal orientation, and performance, where mastery goal is essential to mediation of the relationship between intrinsic motivation and performance. The process itself, overcoming challenges, is a source of positive emotions and motivates the student. It is a motivational circle, as motivated children motivate teachers, motivated teacher motivates children [2, p.12-23] and the relation created is positive and source of intrinsic motivation itself. Social contexts create opportunities for students to practice their autonomy, where they can demonstrate competence and feel related which is important to enhance intrinsic motivation [9, p.338-353; 2, p.12-23]). A.Yüyük et al. [4, p.1-14] emphasize the importance of having an active goal to pursue and develop the organism to select the information according to the goal. Other studies [37, p.55-62; 29, p.5] add to it the crucial role of emotions in regulating active goals. Motivation can be operationalized in terms of goals [22, p.425] where learning, writing an essay, for example, can be operationalized in manageable

tasks, keeping in mind that the task should be challenging enough, but at the same time not too difficult. The potential goal to pursue, should activate student's engagement [15, p.1-3; 24, p.338-353] and teachers should also select meaningful tasks; task value and expectancy of success is a crucial aspect in developing and maintaining intrinsic motivation. N.Kiuruas' [15, p.13] study shows a positive correlation between high task-value, high expectancy of success, high positive emotions before a task and the higher level of effort during the task and consequently, it would lead to a better task performance. While designing teaching, it is quite important to direct action toward encompassing all school engagement components: behaviour, emotion, and cognition [2, p.12-23]. Obviously, as stated before, the success is a great motivator, students should have opportunities and genuine situations where they could be successful which would increase their positive emotion and that is an indication of a better task performance.

Future research direction

Future research could be targeted at organising intervention of motivational model into developing writing skills and sustaining the optimal motivation in pursuing active goals, while evaluating how school environment and teacher intervention could be designed to address unmotivated students to engage in writing activities.

Conclusion

It is well established that learning is a human need, it has a physiological drive that is launched by the body to understand the world in each it operates and to learn in order to adapt to its complexities. Learning has a strong internal motivation, although the reality shows that students are often disengaging from academic learning. Needs, desires, drives, expectations, aspirations are common but they are distributed, activated and competing and winning differently in each one of us. Autonomous motivation led to higher enjoyment, value and the optimal challenge is the pathway indicated by nature to keep the student engaged in learning task and satisfied with their learning.

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