Developing academic persistence in the International Baccalaureate Diploma Program: educational strategies and associated personality traits

Andrei Corneliu Holman, Emilia Alexandra Pascal, Cristina Bostan, Ana Maria Hojbotă, Ticu Constantin[1]

Abstract: We present two qualitative studies on the educational mechanisms used for fostering students' academic persistence in one of the educational programmes of the International Baccalaureate (IB), an international private educational system, namely the Diplomma Programme, a two-year college-preparatory curriculum. The first study is a qualitative analysis of the official IB documents, and the second is a focus-group investigation of the perspectives of the IB teachers working in three IB high schools located in Romania. Both studies aimed to reveal the educational strategies of the IB Diploma Programme implementation employed for developing students' academic persistence and the personality traits that are considered by the IB representatives (teachers and curricula developers) as important in this process. Results highlight a specific set of such strategies and traits. We discuss both their intrinsic connection to academic persistence and their differences in comparison to the psycho-educational dynamics of the traditional Romanian educational system.
Keywords: academic persistence, educational strategies, personality, International Baccalaureate, documents analysis, focus-groups

1. Introduction

People spend and invest a great amount of time in training, education being one of the predominant activities. Thus, the interest for improving the educational system or for creating alternative systems has only increased in recent years. Taking into consideration both theoretical and practical aspects, the research literature developed theories and supported solutions to shape the educational system in order to create a comfortable space which ensures access to opportunities (NEA, 2008). For example, over the years, a great interest was given to the effects of rewards and sanctions, educational strategies for facilitating education but also strategies for acquiring knowledge and also the development of personal traits that enhance academic performance.

Currently, a lot of attention is paid to the motivational domain, as it is considered to have the potential to stabilize a constant rhythm in learning and to stimulate one's personal effort toward acquiring knowledge, consequently fostering achievements in education (Christensen & Horn, 2010). The classic

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[1] Alexandru I. Cuza University, Iasi, Romania, Psychology Department;
E-mail of corresponding author: andreiholman@gmail.com

psychological theories in this area put forth the concept of goal orientations (Locke & Latham, 1990). In this approach, goals constitute an immediate regulator of human action, guiding the direction, intensity and persistence of tasks related behavior. Thus, goals are proposed to stimulate engagement and disengagement on a given task, especially for goals that are specific, new and difficult. Students' conative system is supported by their pedagogical and administrative settings; generally, education is considered nowadays a challenge that needs favorable conditions, requiring a safe and trustworthy environment (Renchler, 1992). Every educational system has its own culture and interaction style; a classroom atmosphere that nurtures motivation to learn is a universal recipe for education, hence the educational environment warrants stakeholders' attention and efforts towards its continuous improvement.

The present study first aims to investigate the educational mechanisms that are put to work in a specific educational environment (The International Baccalaureate educational system) in order to foster a particular psychological trait in students, namely academic persistence, as well as the related personality dimensions that the IB representatives consider as important for the development of this trait.

The International Baccalaureate educational system

The International Baccalaureate Organization is an international educational foundation founded in 1968, headquartered in Geneva, Switzerland, that offers four educational programmes: the Primary Years Programme for students aged 3 to 12 years, focusing on the overall development of the children both in the classroom and in the outside world; the Middle Years Programme for students aged 11 to 16 years provides a framework of academic challenge and life skills, achieved through embracing and transcending traditional school subjects; the Diploma Programme for students aged 16 to 19 years, which is a demanding two-year pre-university curriculum leading to a qualification that is welcomed by leading universities around the world, respectively the Career-related Programme for students aged 16-19 who wish to focus on a particular career-path (IBO, 2013).

The International Baccalaureate Organization reports in 2014 almost 5,500 programs offered in more than 4,000 schools around the globe, divided in regions as Asia-Pacific, The Americas, Africa, Europe and Middle East (www.IBO.org). In Romania, the program has been implemented for the first time in 1997 and currently there are three schools, located in Bucharest, offering IB programmes: Primary Years Programme and Middle Years Programme are offered by two schools and the Diploma Programme is offered by all three IB schools. The languages of instruction in these schools are English and Romanian. Due to the fact that some of the students study in more

than one language, the program also offers the possibility of graduating with a bilingual diploma, if some requirements and conditions are met.

The Diploma Programme aims to offer a preparation specific to academic and future university challenges by balancing internal assessments and final written examinations with external IB examiners. IB students have the freedom to choose one course in each of the six different subject groups they are offered. Normally, three subjects are studied at higher levels (the courses in this category representing more than 200 teaching hours) and the remaining three subjects are to be studied at a standard level (courses with 150 teaching hours). These six groups of subjects are built in order to maintain a sufficient topic breath as well as an optimal depth of study or difficulty. Moreover, there are three core elements that are compulsory for all IB students and that are considered central to the philosophy of the program, namely creativity, action, service (CAS), the extended essay (EE); and theory of knowledge (TOK) (IBO, 2012). The extended essay is an independent paper based on a self-directed research on a topic of individual interest, and acquaints students with the independent research and writing skills expected at the university. The TOK course is an interdisciplinary course designed to emphasize the coherent nature of knowledge across disciplines, and to instill students the need of continuous information and recent research results; it also aims to encourage students to appreciate and critically investigate other perspectives.The CAS service is provided in order to ensure a connection with the real world and its problems, to involve students in artistic pursuits, sports, and community service work and to foster students' awareness and appreciation of life beyond the academic arena.

While the traditional schools offer a greater volume of information through a higher number of subjects that are studied, the IB programs encourage students first of all to comprehend the abstract concepts that are learned in their relationship with the real world. Its mission, as described by the representatives of the IB programs, is to provide students the opportunity to personally develop as inquiring and knowledgeable persons, with the ability to show empathy, to support and actively argue for a better and more peaceful world (IBO, 2013a). In other words, the general orientation of the IB programme is mainly holistic and humanistic, concerned with students' potential of developing in harmonious ways, and not focused only on obtaining results and transforming students into "performers" - an educational paradigm that it usually promoted in the traditional system. Moreover, the IB programs promote positive personality virtues, which are considered by specialists as a set of traits that are morally and intrinsically valued (Peterson & Seligman, 2004). The official guidelines of the IB programs, condensed in the "IB learner profile", openly describe them as aiming to foster a set of such personality components (IBO, 2013b): a) "inquirers" -the program seeks to nurture

curiosity, developing skills for inquiry and research; b) "knowledgeable", referring to the development of conceptual understanding, interdisciplinary approach and activism in problems that have local and global significance; c) "thinkers" -the program strives to encourage the use of critical and creative thinking skills on complex problems; d) "communicators", referring to the goal of supporting students to express themselves confidently and creatively, and to respect the others' perspectives, e) "principled", in that students should act with integrity and honesty, thus taking responsibility for personal actions and their consequences; f) "open-minded", in that students should critically appreciate their culture and personal histories, but also others' values and traditions; g) "caring", showing empathy, compassion, respect and willingness to make a positive difference in the lives of others; h) "risk-takers", referring to the fact that students would develop the capability of being determined, resourceful and resilient in the face of challenges and change; i) "balanced", referring to the understanding of the importance of balancing different aspects of life – intellectual, physical, and emotional; j) "reflective" – having a thoughtful consideration of the world and one's personal ideas and experience. In comparison to the IB programme, the classic system accentuates the need to ensure education for a large number of students, in minimum optimally conditions and is rarely prepared to manage and integrate the requirements and the various developmental needs of students from all areas and schools.

Previous studies on the educational characteristics of the IB programs revealed that they provide a coherent education, offering balance between levels of difficulty and a diverse range of professional options and skills (Agency, 2011). Other investigations have been interested in the comparison between the IB system and the classical educational systems. For instance, an extensive qualitative and quantitative analysis over the IB system revealed differences in the dynamics of the educational process (Beckwitt, Van Camp, & Carter, 2015). This study was conducted in order to examine the implementation process and the results show that IB students consider that by enrolling they gained an advantage in the college admission process; on the other side, professors consider that the IB curricula is more focused on the students and on global issues, higher-level cognitive skills and application of learning. Moreover, the IB system facilitates to a higher degree the teacher – student process of communication, as well as the teachers' development, through professional development courses. At an institutional level, communication between teachers and administrative personnel is more transparent than in the traditional system. Moreover, reports (Bilug, Fredericks, Swackhamer, & Espel, 2014) indicate benefits in terms of the IB students' personal characteristics, such as knowledge enhancement and cognitive development, which arise due to the IB's positive and engaging learning

environment and its emphasis on cultural awareness. Consequently, involvement in the Diploma Programme leads to positive outcomes for students (i.e. high school graduation and college enrollment) (Saavedra, 2014; Coca et al., 2012). Moreover, recent investigations (Conley & Ward, 2009) indicate that the IB Diploma Programme is in alignment with university requirements in terms of developing the levels of knowledge and skills needed for students' success in the academic space. More precisely, the comparisons (Saavedra, 2014; Coca et al., 2012) between IB students and non-IB students showed that those who attended the IB DP have a greater rate of immediate enrollment and higher workload management skills than those from the national cohort. But the effects of the IB Diplomma program not restricted to this layer of academic performance, since more in depth analysis (Rizvi, Acquaro, Quay, Sallis, Savage, & Sobhani, 2014) show a strong and positive association between students' educational outcomes and measures of open mindedness, multicultural knowledge and intrinsic goals for learning, but also self-efficacy and reading/writing skills.

Academic persistence

Academic persistence received a wide attention from educational research, mainly as a primary outcome susceptible to multiple sources of influence, in both secondary and postsecondary education (Reason, 2003, 2009; Pascarella & Terrezini, 2005; Wentzel & Wigfield, 1998).

Academic persistence is mainly treated as an outcome and less as a predictor of academic outcomes, such as success and performance; also, there have been rather sporadic attempts at capturing it as a personality trait, investigated with specific self-report scales. Such attempts have been made by various scholars that tried to design adequate measures for the academic context, such as the persistence scale for children (Lufi & Cohen, 1987), the persistence in school scale (Lufi & Parish-Plass, 1995), self-reported persistence/effort (Agbuga, 2010), the effort and perseverance subscale of the Student Approaches to Learning Instrument (SAL) (Marsh, Hau, Artelt, Baumert & Peschar, 2006), the grit scale (Duckworth & Quinn, 2009) or the College Persistence Questionnaire (Davidson, Beck & Milligan, 2009).

We approach academic persistence as the individual ability to direct personal resources towards the achievement of academic tasks and goals, including program completion. In other words, it is a modifiable individual non-cognitive aspect, operationalized as the degree to which students feel compelled to pursue the goals needed to finish their current level of studies, regardless of the difficulties and obstacles they face. Persistence and effort are part of the grit construct, which predicts academic performances, measured as cumulative grade point average (Duckworth et al, 2007). Also, it is important to note that persistence and self-directedness are as good of predictors of academic

performance as other intellectual and personality dimensions (Moreira et al., 2012).

Several personal factors that sustain academic engagement and persistence have been pinpointed by previous research, such as perceived competence and self-efficacy (Zimmerman, Bandura & Martinez-Pons, 1998), student engagement (Martin, 2007), intrinsic motivation (Deci & Ryan, 1985), autonomy (Reeve, Ryan, Deci & Jang, 2007), or grit (Duckworth et al, 2007). Also, school factors that promote persistence have been pinpointed, such as the school's budgetary allocation to student services and student-teacher ratio (Chen, 2012); perceived institutional support for all needs of the students, including social and emotional (LanRong & Preissle, 2009); promoting civic engagement, curiosity, initiative and deep action learning (Allen, 2011); making students aware of the relationship between their interests and values and what they are learning (Hulleman & Harackiewicz, 2009), etc.

The present paper reports two qualitative studies aimed at revealing the two sets of elements associated to academic persistence: on one hand, the educational mechanisms or the components of the IB Diploma Programme (DP) implementation that sustain or foster students' academic persistence and, on the other hand, the personality traits that are considered by the IB representatives (teachers and curricula developers) as important in this process of developing academic persistence. Each of the two studies investigated a specific source of data relevant for this research topic, namely the official IB documents (central for the ways in which the IB programs are implemented and regulated, as well as for the content of the IB curricula), respectively the perspectives of the IB teachers. Since the second qualitative investigation entailed focus-groups with teachers working in Romanian IB schools, among which there were several who had worked in the Romanian public schools, another research aim was to reveal the differences in these educational mechanisms between the two types of systems (the IB and the Romanian traditional system), as perceived by those with actual work experience in both work environments.

Research objectives

The objectives of the two empirical investigations were to reveal:

a) the mechanisms, in terms of instructional strategies, pedagogical content and management practices, that the IB DP uses in order to foster students' academic persistence.

b) the personality traits that the IB DP aims to develop in the students enrolled in the DP program that might contribute to their academic persistence.

In what follows, we present the research design of each of the two studies that we conducted on these layers of investigation, in terms of their data sources (IB documents in the first study, participants in the second),

respectively data collection and analysis. Then, due to the large overlap between the results of these studies, we present their results in a common section.

2. Research design
Qualitative study 1. Analysis of the IB documents
The first investigation was performed on a set of IB official documents, aiming to investigate the two aforementioned layers (educational mechanisms and psychological traits associated to academic persistence) in the official and public guidelines of the IB program itself.

Data collection
The IB documents analyzed were:
a) International Baccalaureate Organisation (2004/2010). *Diploma Programme assessment. Principles and practice*. Cardiff: Peterson House.
b) International Baccalaureate Organisation (2009). *The Diploma Programme: From principles into practice*. Cardiff: Peterson House.
c) International Baccalaureate Organisation (2011). *General regulations: Diploma Programme*. Cardiff: Peterson House.
d) International Baccalaureate Organisation (2012). *Handbook of procedures for the Diploma Programme 2014*. Cardiff: Peterson House.
e) International Baccalaureate Organisation (2013). *What is an IB education?* Cardiff: Peterson House.
f) International Baccalaureate Organisation (2013). *IB learner profile.*

Data analysis
First, we selected from the IB documents the text sections relevant for our aim. Then, we performed a thematic analysis (Miles & Huberman, 1994; Gibbs, 2002), by first distributing the material among the five authors of the present paper. Each elaborated a coding scheme to classify the relevant parts of the IB documents into distinct categories on the two layers mentioned above and previously decided upon. In other words, each coder looked for references to the educational strategies or mechanisms that the IB DP uses or should use in order to foster academic persistence, as well as for references to references to personality traits that are considered as having a fostering effect of students' academic persistence. Each of the educational mechanisms and personality traits identified was labeled by a code. The set of codes that emerged in the initial phase were then discussed and synthesized into an initial collective coding scheme. Each coder then reanalyzed a part of their initial material through this collective scheme. The final version of the collective coding scheme was decided upon in another session, in which the five coders proposed, discussed and agreed upon its modifications. The final coding

scheme includes the educational mechanisms and the personality traits listed in the *Results* section. It was then applied individually by each coder on his/her part of the material, and the resulting classifications (the associations between each code and the corresponding textual segments) were merged across coders. Finally, all coders checked the overall classification, discussed and decided upon its final version.

Qualitative study 2. Focus-groups with the Romanian IB DP teachers
Participants and procedure
  In the second study, we conducted three focus-groups with teachers in the IB DP, in December 2014. Three samples of 10 teachers each, from the three IB schools in Bucharest participated in the focus-groups. Each focus-group took approximately one hour. Every intervention of the teachers was coded with a number in order to ensure confidentiality for their identity.

Focus-group guide
  Similar to the first study, the second one focused on the two layers of our investigation, this time from the perspective of the IB DP teachers, who are expected to put into practice the official guidelines of the DP. Consequently, the questions or discussion topics addressed in the focus-groups were:

  "1. Please tell me a bit about your professional background. How long have you been teaching? How long have you been here, at this school? Have you worked at other schools before? Do you work exclusively with IB students?

  2. From your experience, how would you describe a student characterized by high levels of academic persistence? If this helps, please think of a student who stood out to you as very persistent academically?

  3. Further, please think specifically of IB students in your schools. How would you describe the IB student with a high level of academic persistence? In your opinion, what are the skills and personality traits specific to the students high in academic persistence?

  4. From your perspective, do you think there are differences between the IB students in your school and their non-IB peers in regards to their level of academic persistence? If there are such differences, what do these differences look like?

  5. Next, I would like to discuss the components of the IB programme that support the IB students' academic persistence. My suggestion is to focus on four such components, separately: The principles and values promoted by IB; the IB Diploma Programme curriculum; the work practices encouraged by and applied in the IB DP - which of these support the IB students' academic

persistence?; the evaluation practices specific to the IB DP - which of these support the IB students' academic persistence?"

Data analysis

Analysis of the focus-group data was similar to the one described above in analyzing the IB documents, with one major difference: after fully transcribing all focus-group discussions, the textual material was not split among the coders. Instead, each team member analyzed the whole transcript and developed his or her own coding scheme organized by the same two layers as in the previous analysis. Then, a collective coding scheme was decided upon and applied on the whole focus-group material. As before, in the end all coders checked the overall classification, discussed and decided upon its final version.

3. Results

Educational mechanisms fostering academic persistence

On the first layer, the educational strategies purported to foster academic persistence in the IB environment revealed by our analysis of the IB document are, in brief: *clear framework*, *individualization and independent work style, teachers' involvement and modeling*, respectively *focusing on the student* (in order to ensure the proper conditions for their development). The analysis of the focus-group data revealed a set of ten such mechanisms, which includes the four listed above as well as the following: *intense collaboration and partnership with the teachers, applicability of knowledge, students class size, updated curricula, comprehensive curricula,* and *curricula focused on the real, practical needs of students*.

In what follows we illustrate each of these mechanisms by the relevant text excerpts in the IB documents and / or by the relevant quotes in the IB teachers' discourse, beginning with the four mechanisms that are common in the two data sources. Participants are referred to by the letter "P" followed by two numbers: the first showing the school affiliation and the second, participant's position within the group.

a. *clear framework* refers mostly to curricula and evaluation strategies employed in the IB schools, but it is also a general principle for the whole teaching process. It is clearly addressed in the IB documents; for instance: "Students learn best when values and expectations are explicit" and "they understand how judgments about learning are made, and how to provide evidence of their learning" (IBO, 2009, p. 43-44); "Students need to understand what the assessment expectations, standards and practices are and these should all be introduced early in the course and be the focus of class and homework activities" (IBO, 2009, p. 45).

The "line of sight" principle applied in the educational setting supports students' effort investments, as it clarifies and strictly defines the rules and criteria that would be part of their evaluation; one participant in our focus-

groups noticed that this clarity of the educational framework is a great advantage compared to the public school system: *"But I think it is also that IB actually it sets a framework for kids, they know what they need to do to be successful, when I was in public school, I felt a little bit abnormal, it was very much of - a teacher could do whatever they wanted in college, more subjects and matters. What that grade represented? It varied from one class to another from one teacher to another. I think for kids they kind of, whether they understand it, completely or not, they have a clear picture of what they need to do to be successful"* (P3-5). Consequently, this educational mechanism allows students to develop a long-term perspective on their educational path, thus sustaining their academic persistence: *"If things are harder, but they know how to get to it, they see them on a trajectory, to be able to improve them and to get to it, that is when persistence kicks in" (P3-4).*

b. *individualization and independent work style* refers to the IB commitment towards stimulating students' abilities to manage on their own the tasks that they encounter in their educational path. In the IB documents, this educational mechanism is described as being put in practice through rewards: *"IB assessments are designed to reward evidence of independent student thinking leading to considered individual responses"* (IBO, 2009, p. 37). Moreover, it requires teachers' constant support towards the development of students' long-term independent learning abilities: *"Students learn best when … they are encouraged in everything they do in school to become autonomous lifelong learners"* (IBO, 2009, p. 37). Another strategy employed to this aim is formulating school tasks in terms of personal projects that require students to independently research a specific topic: *"children must come up with an idea for an experiment that they have to put to work and test it… They gather information from the internet, they make connections and then they ask themselves: could I do this?"* (P2-5). This educational strategy is described by one focus-group participant as antithetical to the regular educational approach in the classic Romanian system: *"in the Romanian system they are used to be fed with information, while here it's more about their own effort and research"* (P2-3). As a result, the IB students develop an assertive approach on school tasks, defining them in terms of the goals that teachers expect them to accomplish: *"students feel like –,, what do you want? – just tell me what you need me to do and I will do it"* (P3-6).

Finally, another strategy that is part of this mechanism is the attentive individualization of the educational contents and requirements to students' characteristics. This preoccupation with the individual cognitive and attitudinal specificities is described as key to the optimal development of all students, and is explicitly formulated in the IB documents: *"Students learn best when diverse learning styles are understood and accommodated"* (IBO, 2009, p. 44);

"Teachers plan and prepare their own course of instruction, adapted to the interests, abilities, current level of understanding of their students" (IBO, 2012, p. 3).

c. *teachers' involvement and modeling*, which first refer to the high degree of participation in the everyday school-related activities that is expected from the IB teachers, as stipulated in the IB documents: "*Adults… are expected to… become involved with school activities beyond the classroom*" (IBO, 2009, p. 37). This involvement is targeted towards developing the required personality traits in the IB students, according to a specific set of such characteristics that is publicly expressed through the "IB learner profile": "*Adults in the school—including the school leadership, staff and even parents - need to model the beliefs, values and behavior indicated in the learner profile*" (IBO, 2009, p. 31). The success of this approach is also supported by the high frequency of interpersonal interactions between students and teachers: "*They spend a lot of time with us, more than with their parents. I spend 8 hours in the school, their parents see them in the evenings, after 9, maybe*" (P3-7). According to the IB teachers, this modeling effort further translates into and supports students' academic persistence: „*Their motivation and persistence depends of our motivation, of how we come in front of them, how thrilled we are of what we do*" (P2-8). Teachers' involvement is described by some of the focus-group participants as a key factor of the educational benefits of the IB system: "*I think that when the teacher is involved, it changes the whole place*" (P2-3). On the other side, such involvement requires and greatly taxes teachers' personal resources, making their job in the IB DP program a highly demanding one: "*Another difference is represented by the teachers – not everybody can teach in the IB… I've learned a lot since I came in the school. It was very challenging. A teacher's work in the first years is enormous, day and night*" (P3-1).

d. *focusing on the student's psychological needs* is required, according to the IB documents, in order to ensure the proper conditions for their development on several specific psychological dimensions, such as their well-being: "*Along with cognitive development, IB programmes address students' social, emotional and physical well-being*" (IBO, 2012, p. 3), avoiding burnout: "*Appropriate internal assessment timelines are a very useful instrument in helping students and teachers realistically plan their work in manageable loads*"; "*Well-designed timelines reduce stress on students*" (IBO, 2009, p. 27-28), and creating a positive climate: "*Adults… are expected to care about the atmosphere and climate of learning created in the classrooms and corridors*" (IBO, 2009, p. 31). This approach focused on the students is confirmed and further justified by the IB teachers as a way to support students' future complete independence: "*we are here to help them to walk on their own*" (P3-6); "*at first you play the role of a guide, you have to stand by his side, but in the*

end he becomes capable of managing on his own. This system puts in the center the student, not the teacher" (P3-2).

e. *intense collaboration and partnership with the teachers*: as a practical consequence of the educational mechanism described above, the focus on the students leads to the development of close relationships between them and their teachers, a phenomenon frequently mentioned by the participants in our focus-groups, for instance: "*It's a very close relationship; they come, ask for our help, we make up time to assist them*" (P2-5). This constitutes, in its turn, another important factor of IB students' academic persistence: "*One of the factors supporting academic persistence, especially in the second year, when they have to do those papers, is teachers' support*" (P3-2). Two inner dimensions seem to account for this effect of teacher – student partnership of fostering academic persistence; on the one side, it creates more frequent opportunities for the students to be mentally and educationally stimulated; "*He (the IB student) trusts you; then, he communicates very easily, you stimulate him at the cognitive level*" (P3-2). On the other, it implicitly involves a more egalitarian relationship compared to the classical educational system, which supports students to learn from their mistakes: "*if you fail, it's not the end of the world; you have the power to repair the situation. The teacher is not God*" (P3-8).

f. *applicability of knowledge* that is transmitted in the IB classroom is a mechanism highlighted by the teachers in our sample. They described the general strategy of disseminating information in the IB environment as being more pragmatic than theoretically grounded, directed towards offering students opportunities to acquire certain skills, and not only to acknowledge the theoretic principles of the respective information. "*While in the Romanian system you are trained to passively receive certain things, that you take as such and learn, the IB student discovers on his own the respective thing; and in the end in life you have to manage with the things you can use, not with what you read in the books*" (P2-8). This approach entails the use of didactic materials embedded into real life situations, in order to highlight the practical applicability of each piece of information, even when teaching abstract material: "*Even in math we use a type of problem that is a real life situation, and they come to see that you can do something with math, we don't learn it just because we have to*" (P1-7). The focus on applicability is not restricted to the teaching process, but it constitutes a main feature of the evaluation procedures that the IB students go through: "*In the IB evaluation, the children must apply what they learn in a practical setting what they had learnt in theory*" (P2-7).

g., *student class size*, which is smaller than in the classic educational system, is another factor that, in the IB teachers' view, contributes to IB

students' academic persistence, as it leads to a higher quality of the educational processes. On the other side, an oversized classroom of students reduces teaching to a passive transmission of information and a selective interaction with a small sample of students. Therefore, the smaller class size offers the possibility to give individualized feed-back to all students: "*having a lot more time one-on-one… More opportunity for feedback, individually, from the teacher.*" (P3-9). Moreover, it allows a more attentive perspective on the evolution of each student: "*working with small groups, this allows you to work individually with each student; you have to pay attention to each student… Sometimes you spend an hour with him. You stay just by his side, you feed his universe*" (P3-3), as well as a finer attunement to the students' needs: „*Small groups, very important (...) you can fold on the students' needs*." (P1-2).

h. *updated curricula* represents one of the three qualities of the IB curricula that fosters IB students' educational long-term performance and persistence: "*The information is very updated, the content of the curriculum is permanently updated… so you are permanently aware of what happened 20 years ago and what's happening right now*" (P1-3). Moreover, this characteristic is one that sharply differentiates the IB system from the classical Romanian system, in some of the teachers' view: "*when I was teaching in the Romanian system, I was teaching the same information that I learned when I was in high school, while in the IB, compared to what I was teaching 5 years ago, the studies in this year's handbook are different, I can't find studies done before 2005, it is updated*" (P1-6).

i. *comprehensive curricula* refers to the large breadth of the IB curricula in terms of the topics covered and, more importantly, of the skills that are being developed in students through these didactic contents. This, in turn, would offer an easier adaptation to the educational or work-related requirements that students will encounter after high school: "*the 6 groups of disciplines cover everything you would want to pursue after high school*" (P2-9); "*you can make a choice from each group so that you would reach your goal, your ideal*" (P2-1). Again, this quality is also described as marking a difference from the classical Romanian educational system: "*there are important subjects that are not studied in the Romanian system… Very few of the Romanian students have the chance to study such disciplines*" (P2-8).

j. *curricula focused on the real, practical needs of students* is the third curricula − related quality of the IB system highlighted by the IB teachers. It refers to the constant preoccupation of the IB professionals working on curricula developments and of the IB teachers themselves with the adjustments of the topics taught in line with students' career plans: "*I think we all try to keep materials fairly relevant for the needs of our students, for what students are looking for*" (P3-8); "*we, as a school, try to improve the set of disciplines that we offer… For instance, there are generations that tend to go towards a*

specific topic – business or computer science, for instance. Then, you as an institution and as a business have to adapt to these requests” (P2-6). This mechanism requires and is based on IB students’ long term projections and concern about their careers: “*The IB students, when they choose these disciplines, they don’t necessarily think about what they might like, but especially about what will be useful for them in the future*” (P2-4).

Personality traits supporting academic performance

On the second layer, the traits supporting academic performance that our analysis of the IB documents revealed as relevant in the IB environment are: am*bition (academic goal setting and pursuit), autonomy and self-development academic purposes, self-confidence, critical thinking, interdisciplinary approach, epistemic curiosity,* and *in-depth understanding*. The analysis of the focus-group data revealed a set of twelve such mechanisms, which includes the seven listed above as well as the following: *academic resilience, time management skills, self-discipline and restrain, intrinsic motivation,* and *vision about their role in the society*.

a. *ambition (academic goal setting and pursuit)* is described in the IB documents as an important trait targeted by the IB programs, through the explicit focus on students’ academic performance: “*teachers encourage peak performance, not just average ones, and these are publicly recognized*” (IBO, 2012, p. 3), and generalized to the whole array of students’ skills: “*IB programmes challenge students to excel not only in their studies but also in their personal growth*” (IBO, 2012, p. 10). In the IB teachers’ view, ambition is an essential prerequisite of academic persistence: “*The most persistent students are the ones that have a clear vision about what they are going to do post-secondary – education or even career*” (P3-4). Moreover, being in the final years of their high school studies, this goal pursuit is fostered by the closeness of their next educational target: “*the kids know that there are two years until they are off to college and that is a goal that is within reach and working for something very specific. It is the final part of the race, so it matters to them, they can see the relevance*” (P3-2).

b. *academic purposes related to self-development* refers to students’ interest and motivation towards the development of new skills, that would allow them to independently manage the various tasks that they might tackle in the future. The IB documents highlight this focus on students’ independence: “*They acquire the skills necessary to conduct inquiry and research and show independence in learning*” (IBO, 2009, p. 4), also remarked by some teachers in our focus-groups: “*In the IB school they are required to be unique, which is very beautiful, but also very hard, so that all it’s left for them is to continuously develop themselves*” (P2-6). In the DP program, covering the last two years of

high school, this trait becomes especially salient, and it fosters their persistence in their school-related work: "*They are very focused right now, there's a strong desire for self-bettering*" (P2-8).

c. *self-confidence* is another mandatory trait for the students that have to deal with the high pressures and standards of the IB environment. On the one hand, the IB documents describe it as a requirement for the development of cognitive independence, which is, as we showed before, a highly valued trait in this system: "*In order to become independent learners, students need to develop powers of reflection, self-confidence and self-awareness*" (IBO, 2009, p. 37). On the other hand, in the teachers' perspective, it is also an important psychological asset of those that are persistent in their educational career: "*The kids who have a certain of certain level of confidence and an understanding of themselves seem to have that persistence*" (P3-2)". Self-confidence manifests not only through the attitude with which students approach their tasks, but also in their social relationships, a dimension also valued in the IB environment: "*Coming from an IB background, me and my wife have both noticed certain character traits specific to IB programme – one would be confidence .... When I would walk down the halls of the elementary schools I find that a student is not afraid to talk to me – they say „hello!" to me before I do to them. This is confidence, the power to engage, even with a stranger, an adult. High school [IB] students are definitely not afraid to engage in critiquing a foreign policy or any type of policies that are implemented in the school. And they can argue that in a very articulated and intelligent way*" (P3-10).

d. *critical thinking* is a cognitive ability that is explicitly addressed in the IB documents as essential for the development of the right approach on the issues that students confront, in terms of the correctness of their reasoning processes, but also of the persistence in dealing with difficult problems: "*We use critical and creative thinking skills to analyze and take responsible action on complex problems*" (IBO, 2012, p. V); "*Reflective thinkers must become critically aware of their evidence, methods and conclusions*" (IBO, 2012, p. V). Critical thinking is also described as another prerequisite of cognitive independence: "*Students are also expected to think for themselves so that they can approach complex problems and apply their knowledge and skills critically*" (IBO, 2009, p. 37). This link between critical thinking and independence, which further supports academic persistence in the future tasks once the students develop the habit of independently and confidently approaching new tasks, was also remarked by the teachers in our sample: "*The teacher teaches him how to think and, moreover, he asks him to think on his own, offering him certain materials. Thus, you create a feeling that he is on his own, you are his guide that assists him, but in the end he can do this on his own*" (P1-7). In practice, this psychological prerequisite of academic persistence expresses through a scientific type of approach on any task: "*The

persistent student is… Inquiring, open minded, capable and enthusiastic about objective critical thinking. Reading more than one book on one subject, comparing multiple sources of information" (P2-1), which often leads to creative outputs, as an effect of the independent search for the best answer to a certain question: "*they come up with original solutions, think outside the box*" (P2-6).

e. *interdisciplinary approach* is highly valued in the IB mission and curricula; moreover, it is an important part of the evaluation criteria used in the IB assessments: "*Students are expected to make connections between different academic disciplines and not to study subjects in isolation from each other*" (IBO, 2009, p. 22). This focus on the interdisciplinary character of knowledge is assumed as a factor that supports students' effective learning and, implicitly, their persistence in academic projects: "*An IB education provides opportunities to develop both disciplinary and interdisciplinary understanding*" (IBO, 2012, p. 8). The teachers in our sample also highlighted the relevance of the ability to organize knowledge in a manner that would allow transfers between subjects for students' performance and persistence: "*Application of skills and the transferable skills, you see kids when they learn something in my class then they transfer it over to geography*" (P3-4); "*they apply very well the elements, the information from various fields, they make connections… they are very versatile with what they do with their knowledge*" (P1-7).

f. *epistemic curiosity* is described in the IB documents as a psychological trait, fostered by the educational environment, that supports learning in general: "*Students learn best when… there is a culture of curiosity at the school*" (IBO, 2009, p. 38), as well as the amount of effort that students invest in their school-related tasks: "*students' own curiosity provides the most effective provocation for learning that is engaging, relevant, challenging and significant*" (IBO, 2012, p. 4). Consequently, the IB teachers consider curiosity as a key factor for academic persistence: "*a student with high persistence has curiosity, enthusiasm in doing his tasks, he has to like it, to research on his own certain things*" (P2-4); "*he has to be interested in what he does*" (P2-1).

g. *in-depth understanding* appears in the IB documents as an essential trait for the quality of the learning process; it entails the effort to go beyond the surface of the knowledge transmitted in school and reaching its essence, thus creating cognitive patterns that would prove highly beneficial in the students' future academic career: "*Each academic discipline provides its own methodological framework that students learn to understand and use. This understanding is essential in order to provide a deep appreciation of the nature of an academic discipline as well as a solid foundation for future university-level work.*" (IBO, 2009, p. 6). This effort also requires a deep restructuring of the existing patterns through which students apprehend the world: "*The*

emphasis is on engaging and challenging the learner's existing mental models in order to develop a greater depth of understanding and to improve performance" (IBO, 2009, p. 37). In the teachers' discourse, in-depth understanding is also associated with a certain attitude towards incertitude, with one's cognitive openness and lack of rigidity: "*understanding that there may not be a right answer, there may not be a correct answer. Understanding and not becoming anxious when there is not a correct answer that takes them out of their comfort zone*" (P2-10). As in the IB documents, this attitude also involves the deep structure of one's own personality: "*and an understanding of themselves seem to have that persistence even if they do not necessarily know what the final goal is*" (P3-6). The IB documents further stress a set of skills that are related to this approach on learning, namely the *metacognitive skills*, described as another target of the IB training: "*Students learn best when… they become aware of and understand how they learn; […] metacognition, structured inquiry and critical thinking are central to teaching in the school*" (IBO, 2009, p. 38); "*IB programmes emphasize learning how to learn* (IBO, 2012, p. 3). Such skills foster thinking in general and, consequently, independence and persistence in all personal educational endeavors: "*This metacognitive approach to learning helps students develop the higher-order thinking strategies needed to become lifelong independent learners*" (IBO, 2009, p. 8).

h. *academic resilience.* Turning to the personality traits highlighted only by the IB teachers, one of the most important elements in this set is students' ability to cope with the high demands and stressful work schedule of the IB DP program: "*If they don't know how to manage their intellectual effort and their emotions, it becomes very hard*" (P1-5). Academic resilience, in the specific context of the IB schools, thus becomes an essential asset of academically persistent students: "*Sometimes, managing the academic difficulties of work. I think it's the intensity that burdens students … In terms of persistence students – the successful are those that can power again, and the next day and next week*" (P3-6). On the other hand, those that are unable to manage their psychological reactions to the pressures of the IB program are also affected in their performance: "*Sometimes the pressure is very high… some students panic, get the feeling that they don't know enough and fail, because they think too much about the grade and not about what they should do, how they should motivate themselves in order to get a high grade*" (P2-5).

i. *time management skills* represents another prerequisite of academic performance and persistence, given the specificities of the IB program in terms of tight work schedule and high standards: "*highly persistent students… are very organized, they manage their time very well, they don't waste their time*" (P1-7); "*he doesn't lose time, doesn't look for excuses to stall*" (P1-4). Consequently, such skills lead to the development of very efficient work

routines, that would prove valuable in the students' future career: *"[the persistent student] is used to respect deadlines"* (P2-3).

j. *self-discipline and restrain* constitute other necessary abilities for the IB students, who permanently need to make the right choices in terms of their effort and time investments: *"[the persistent student] doesn't look for excuses, does not hide, he just controls himself and does what it needs to be done"* (P3-5); *"[the IB students] have to study without being controlled by somebody else, they have to become self-disciplined"* (P2-7). This type of decision and behavior first requires overcoming one's impulses and thinking on the long term in order to restrain them: "*you have to be conscientious from the standpoint of doing your tasks, even those that are not very pleasant for you*" (P2-2). Generally, persistence in the IB DP program requires self-disciplining efforts, directed towards adapting on a deep personal level to the work schedule imposed by the school: "*I think that IB students have to figure out how to manage their weaknesses in IB, when in other systems do not have to do that*" (P3-8), as well as towards gathering the necessary strength to continue: "*a lot of tenacity, because many times they have to experience trial and error situations; you fail and have to begin all over again*" (P2-4);

k. *intrinsic motivation.* Beyond the self-regulating efforts that are required from the IB students, in terms of resilience, time management, self-discipline and restrain skills, another important factor for their academic persistence is also their intrinsic attraction towards scientific knowledge: *"Persistent students are… those who read without being required to read, who know the latest research in the field. They study even when nobody asks them to study and nobody checks whether they studied"* (P1-6). Intrinsic motivation further leads to the development of students' personal initiative, which would generate the self-sustaining energy in their future endeavors: *"[the persistent student] is the student that is always ready to engage and even comes up with new ideas for activities"* (P2-5).

l. *vision about their role in the society.* Finally, in the view of the IB teachers, academic persistence also involves having higher-order purposes that would sustain one's efforts in the long term. Consequently, the IB environment offers students opportunities to engage in activities directed towards this type of purposes, that usually involve creating social benefits, assuming active and positive roles in society: *"Persistent students… are involved not only in the activities of the academic community, but in volunteering as well. They understand that society nowadays expects not only informed citizens, but also citizens that assume a role in society and wish to help make things better"* (P1-7). Through this focus of the IB environment on the social involvement of their students, education targets not only the development of their personally useful skills – such as academic persistence – but also of socially valuable characters:

"*They realize that the world around them needs people with principles, who give without expecting something in return*" (P2-2).

4. Discussion and conclusions

Academic persistence and academic achievements in general are concepts that are sensitive to a great number of factors and are influenced by a great variety of circumstances. For instance, previous studies have shown the influence of demographic factors such as age, gender and financial resources (Ibrahim, Freeman & Shelley, 2012), psychological characteristics such as self-confidence (Boyer & Sedlacek, 1988) or adaptive coping strategies (DeBerard, Spielmans & Julka, 2004) and social factors, like peer and social support (Gloria & Kurpius, 2001). All the aforementioned factors, with the exception of peer and social support, are individual characteristics of the students, upon which school has little or no influence. Therefore, the focus of the researchers in the last years has focused more and more on the factors, strategies and characteristics that can be influenced by the schools in order to ensure academic persistency and better academic results in general. For instance, Gloria & Ho (2003) describe the importance of the involvement of the teachers and school personnel, Hattie (2013) underlined the importance of class size, Levy (2007) described the positive influence of joy and satisfaction of learning on decreasing school dropout and Ibrahim and colleagues (2012) focus their efforts on describing strategies such as support systems or teaching policies that could improve students' involvement and academic success.

In our research we studied academic persistence in a specific context – the IB schools. We aimed to uncover the specific components of the IB Diploma programme that sustain and encourage academic persistence and the personality traits developed by this program that ensures academic persistence, by analyzing two sets of data: the IB documents that describe the IB program and its goals, and the results of the focus groups with the teachers from the IB schools.

The IB schools seem to have special goals and teaching strategies that are different from the ideology and methods employed by the traditional school. While traditional public Romanian schools reward memorizing, the exact reproduction of the taught material, minimizing the importance of creativity or students' personal approach (Nita, 2013), the IB system aims to offer an individualized education that focuses on each student. They promote an approach that is tailored, as much as possible, to match the specific needs of each student and their specific style of learning. The IB methodology encourages teachers to teach in a creative manner, try to create learning challenges that can be solved creatively and that allow students to express themselves freely, thus maintaining the students' interest in the subjects taught. Previous studies also show that students learn best they are stimulated to work

freely (Kohn, 2011) and have the chance to express themselves. Nevertheless, it is not only the methodology of the IB schools that makes possible an individualized approach but also other factors, among which the most importance one is class size. For instance, in many cases in Romania the classes don't respect the maximum number of children and are frequently overcrowded (McDonald, 1999) which implies that teachers cannot give all the necessary attention to every student, determining students to work on their own with minimum guidance.

Another important characteristic that is underlined by the IB ideology is independent work style. The IB system aims to encourage students to work independently, solve problems and tasks on their own and assume responsibility for their future success or failure. This type of approach is not only meant to increase academic persistence but also to prepare students for the future demands of the academic system. Previous studies also support this idea, as encouraging an independent work style among students is correlated with increased persistence and good grades (Reeve et al. 2007). Also, other studies show that the students that are encouraged to be autonomous get more involved in a task (Assor, Kaplan & Roth 2002) and are also more motivated to accomplish it (Komarraju, Karau & Schmeck, 2009).

In post-communist countries like Romanian or Poland the traditional school system still has a lot of ground to catch up until it reaches the level of the other European countries (Tobin, 2010). It is possible that one of the main causes of this gap is the lack of clarity of the educational track, as perceived by students, both in terms of the relationships between their work tasks and evaluation and with regard to the role of the school for their future development. The lack of clarity could cause the students' interest in school to decrease, which leads to negative educational experiences like poor grades and the feeling of failure, which, in turn decreases even more their interest, generating school disengagement (Fullerton, 2010). This seems to be the reason why both the IB documents and the IB teachers emphasize so much the importance of a clear framework and updated curricula centered on the students' needs. In the view of the teachers that we have interviewed, having a clear image of what it is expected of them, of what they have to do, of how they are supposed to do and of the benefit of completing the assignment helps students better understand the task and its demands, which makes them able to organize their work independently and effectively. The importance of these educational strategies is also supported by previous studies which show that inadequate curricula and instructional practices, coupled with lack of support in transitional stages from a level to another (Blue & Cook, 2004; Lee & Burkam, 2001), poor school practices and policies (Rumberger, 2000) predispose to dropout. A comprehensive curriculum has become a world-wide requirement

and it is clear that its full and constant update is necessary in order to instill a sense of connection with the outside world, as the lack of such connection is associated with poor school performance (Bridgeland, DiIulio & Morison, 2006).

Teachers also emphasize the practical implications of the subjects that they teach, helping students understand the multiple ways in which every subject they learn helps them in the future, because, as previous studies have shown, students tend to be more persistent when acquiring knowledge and skills that they perceive as being relevant and useful (Eccles et al., 1983; McKnight & Kashdan, 2009). These teaching practices develop in students the sense of being a part of a system that regards abstract information as an integrated part of human reality and not as concepts that students use only in order to successfully finish an educational stage. The interest of the teachers extends beyond the transmission of a sum of facts or theories that students must memorize; they strive to involve students as active agents that can engage with confidence in actions that are significant for their own needs and future. Through such strategies, the IB Diploma program promotes a learning experience that facilitates students' holistic intellectual, cognitive, professional and personal development, and, consequently, their long-term educational engagement.

The IB program and teachers also strive to enhance academic persistence by stimulating the personality traits that are associated with it. First, they aim to develop students that are capable to choose their goals in a way that allows them to focus on growth and development of their skills, not only on achieving formal acknowledgment and rewards for their work; this trait has been referred to as "mastery goals" (Pintrich et al., 1993; Daniels et al., 2009). Other traits that have been associated with increased academic persistence are restrain - the students' capacity to engage in long term tasks by avoiding being hijacked by momentary distractions and temptations (Tangney et al., 2004; Maloney et al., 2012), proactive attitude - the predisposition towards initiative (Schmitz & Schwarzer, 1999), and academic resilience – the ability to surpass obstacles and to face stress, essential in order to adapt to the challenges specific to demanding academic environments (Martin & Marsh, 2006).

The results of our study are in line with previous research that have repeatedly shown that student-teacher relations are central for creating academic success in the classroom and other academic outcomes (Hamre & Pianta, 2001; Harris, 2006; Miller, 2000). Teachers that act like mentors who offer support and encouragement (Hu & Ma, 2010) and use active teaching pedagogies (Braxton, Bray & Berger, 2000) foster students' connection to the school environment, their enthusiasm, participation and ultimately their persistence and performance.

In conclusion, our results reveal several strategies, grounded in well-documented psychological phenomena, which are put to work in the IB environment in order to increase students' academic persistence and personal trust in themselves and in their school. Moreover, the educational mechanisms employed in this environment foster students' genuine interest for learning that could enhance their motivation leading to positive results. Students don't only develop a clear framework of how they can approach learning new information from diverse areas of study, but they also develop the ability to plan in advance and manage a high volume of work during a stressful period of time. The learning process is more than memorizing information and showing good results (Farington et al. 2012); it is also about personal development and developing abilities that would allow young people to adapt to any environment. Effective schooling is a multi-faceted endeavor, which requires the energies of teachers and students to the same extent. The connection between teacher efforts and student outcomes will ultimately reflect the efficiency of the institution in preparing students to thrive academically, first in order to obtain a high school diploma, then in their tertiary studies. Nevertheless it is not only the joint efforts and engagement of the educator and the student that guide this journey to success, but the perceived correspondence between the motivations, philosophies and actions of the two school's main actors.

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