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The relationship of higher education students to knowledge: learnings and processes

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Abstract

This article presents the results of an investigation that sought to understand higher education students' relationship to knowledge, using Bernard Charlot's relationship to knowledge theory as a theoretical reference. The field studied was a community university in a mid-sized city in the state of Minas Gerais, Brazil, and the subjects were 400 students at 24 undergraduate courses. The collection of data was performed using *balances of knowledge*, a tool proposed by Bernard Charlot, which consists of asking subjects to produce a written composition about their learnings. After presenting the quantitative aspects of the classification of learnings mentioned by students, the article discusses the predominance of learnings related to personal development, and uses the categories of *mobilization* and *meaning* to achieve deeper understanding of the accounts produced by students in their balances of knowledge. We concluded that the subjects' relationship to knowledge is based on the valuing of their personal development-related learnings also with regard to what they have learned in the university, and that some of them are able to recognize the specificities of that particular institution as a learning space. The study identified three core topics around which are organized the meanings attributed by students to undergraduate education: achievement of a better life, changes in their worldviews, and mobilization relating to knowledge itself.

Keywords

Higher education – Relationship to knowledge – Students.

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Relação com o saber de estudantes universitários: aprendizagens e processos

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Resumo

Este artigo apresenta resultados de uma investigação que buscou compreender a relação com o saber de estudantes universitários, utilizando como referencial a teoria da relação com o saber de Bernard Charlot. O campo de pesquisa foi uma universidade comunitária localizada em um município de porte médio do estado de Minas Gerais, sendo que os sujeitos da pesquisa foram 400 estudantes de 24 cursos de graduação. A coleta de dados foi realizada por meio dos balanços de saber, instrumento proposto por Bernard Charlot, que consiste na demanda da produção de um texto a respeito das aprendizagens do sujeito. Após a apresentação dos aspectos quantitativos da classificação das aprendizagens evocadas pelos estudantes, o artigo discute a preponderância das aprendizagens ligadas ao desenvolvimento pessoal e utiliza as categorias mobilização e sentido para aprofundar a compreensão dos relatos produzidos pelos estudantes nos balanços de saber. Conclui que a relação com o saber dos sujeitos da pesquisa está baseada na valorização das aprendizagens ligadas a seu desenvolvimento pessoal, inclusive ao tratar de o que aprenderam na universidade, e que uma parcela deles consegue reconhecer as especificidades dessa instituição como espaço de aprendizagem. A pesquisa identificou três polos nos quais se organizam os sentidos atribuídos pelos estudantes à formação universitária: a conquista de uma vida melhor, a transformação da maneira de ver o mundo e a mobilização em relação ao saber em si.

Palavras-chave

Ensino superior – Relação com o saber – estudantes.

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Introduction

This article presents the results of an investigation aimed at understanding higher education students' relationship to knowledge, using Bernard Charlot's (1997, 1999, 2000, 2001, 2005, 2009) relationship to knowledge theory as a theoretical reference. The choice for this theoretical approach was motivated by our consideration of the complex character of teaching and the different questions facing the field of education as a result of the expansion in the offer of this level of education. We found in Bernard Charlot's discussions about relationship to knowledge a theoretical reference that seems to us an adequate one for understanding the different aspects involved in undergraduate students' educational experiences.

The field studied was a community university in a mid-sized city in the state of Minas Gerais, Brazil. The study comprehended the 24 undergraduate courses offered by the institution which were grouped into the following fields: humanities and social sciences (business administration, graphic design, law, history, journalism, letters, pedagogy, psychology and social work); health and agricultural sciences (agronomy, physical education, pharmacy, physiotherapy, nutrition, dentistry, biological sciences); and exact sciences (architecture, accounting, computer sciences, information systems, civil, environmental and electrical engineering). The subjects of the study were students in their last but one year in each course. The 400 students that formed the studied population varied in terms of social background, age and school history. Taken as a whole, however, they shared the condition of being undergraduate students at a private community university whose courses did not offer most students academic experiences beyond the focus on professional development.

For the collection of data, we used the *balance of knowledge*, i.e., a tool designed by Bernard Charlot which consists of asking

subjects to produce a written composition based on the following questions:

Since I was born, I have learned many things at home, around town, in school, and elsewhere... What? From whom? What is important to me about all this? And what do I expect now? (CHARLOT, 1999, p. 7)

In line with this proposition, and with the purpose of fitting it to our investigation field, we added in the phrase "in university" before the phrase "and elsewhere". The compositions produced by the students based on these questions formed the material through which we discuss the different processes in their relationship to knowledge.

In the first section of this article, we present both the theoretical and methodological foundations of our study. In the second, using graphs and excerpts from the balances of knowledge, we show the rate at which, and in what ways, learnings are remembered, and discuss the data found in order to understand the processes of relationship to knowledge among the students researched. In a further analytical step allowed by the reading of the balances of knowledge, we used the concepts of meaning and mobilization, based on the same theoretical reference, to understand the accounts produced by the students, which is presented in third section of the work. In our final considerations, based on the data, we reflect on the processes of teaching and learning in higher education.

A study about relationship to knowledge in the university

According to Charlot (2000, 2001, 2005, 2009), relationship to knowledge is a group of relationships that a subject establishes to

1- "Depuis que je suis né j'ai appris plein de choses, chez moi, dans la cité, à l'école et ailleurs... Quoi? Avec qui? Qu'est-ce qui est important pour moi dans tout ça? Et maintenant, qu'est-ce que j'attends?" (CHARLOT, 1999, p. 7).

learning – plural, circumstantial, and sometimes contradictory relationships. The author proposes to understand the subject simultaneously and entirely as a human, social, and singular being. A being of wishes in a world shared with other subjects; a being who occupies a social position, the first stage of which is family, and who assigns singular senses and meanings both to himself and to the world while building a singular history.

To this subject, learning is a need that marks his presence in a knowledge-producing world. This activity is central to human being's building process, which involves becoming a member of the human species (hominizing oneself), becoming a unique human being (singularizing oneself), and becoming a member of a community (socializing). Through education, one produces oneself and is produced by the world. Therefore, a subject and his history are always both entirely social and singular, while belonging to a social class is actively interpreted by the individual in order to build a history in which he is a subject. In an exchange with Pierre Bourdieu's sociology of education, Bernard Charlot claims that it is necessary to analyze the activities that individuals perform within the context of social positions in order to "achieve, keep, and 'transmit' these positions, and it is necessary to consider also other perspectives than just the one based on their social position". (CHARLOT, 2005, p. 40).

Faced with the obligation of learning for being, which, according to the author, underlies the human condition, individual subjects experience several learning processes where they establish different relationships to different types of knowledge, and different relationships to learning itself in different contexts.

Relationship to knowledge is a group of relationships that an individual subject establishes to an object, a 'content of thought', an activity, an interpersonal relationship, a place, a person, a situation, an occasion, an obligation, etc., that is somehow related to learning and knowledge

– therefore, it is also a relationship to language, to time, to the activity in and about the world, to others and to oneself as one is more or less able to learn it in a given situation. (CHARLOT, 2005, p. 45)

Relationship to knowledge is therefore constituted by a group of relationships to several ways of learning that can vary according to the situation established by the type of knowledge and the circumstances where that learning takes place. It would thus be a mistake to seek *the* relationship to knowledge of the subject while ignoring the different spaces, situations and interactions involved in the education process in which he participates. Although it is possible to identify a dominant way – at least concerning the question under analysis – (the author admits the existence of a unity in the subject that is built in the diversity of relationships with the world), the most important is to understand the relationships between the several types of relationship to knowledge that an individual subject establishes.

A study about relationship to knowledge should therefore analyze the different elements that form the processes built by the subject in his several interactions.

It is this work of identifying, exploring, building elements and processes that constitutes the study about relationship to knowledge – which ultimately allows us to understand the (sometimes contradictory) ways of mobilization in the fields of knowledge and learning. [...] This means that the answer to a question proposed in terms of relationship to knowledge should be an answer in terms of process rather than in terms of categories of relationship to knowledge – [...]. (CHARLOT, 2001, p. 23)

We seek to understand the set of relationships to knowledge that students experience in higher education by considering

the specificities of the learning processes in this context, since entering university requires students to adapt to processes and relationships different from those experienced in their previous education stages (COULON, 2008). Therefore:

[...] Learning is performing something *in situation*: in a certain place, in a certain moment in one's history, and in different time conditions, with the help of people who help with learning. (CHARLOT, 2000, p. 68, italics by the authors)

By producing their balances of knowledge, the subjects of the study wrote about their learning processes throughout life and, particularly, in the university. Although the accounts were the product of singular subjects, by analyzing these balances of knowledge we have access the processes through which these subjects "set the world in order", rather than the construction of singular school histories. Therefore, "the balances of knowledge are treated as one single text, where regularities are sought that allow to identify *processes*". (CHARLOT, 2009, p. 20). We therefore dealt with the group of students in the researched university. And what did we find in the compositions?

The balances of knowledge do not indicate what the student has learned (objectively), but rather what he says that he has learned by the time he is shown the question. On one hand, this means we learn not what the student has learned (which would be impossible), but rather what is relevant, meaningful and valuable enough to him as to be remembered in his account. (CHARLOT, 2009, p. 19)

Therefore, by analyzing what the 400 students wrote, we seek to understand what made sense to them in relation to everything that they have learned in their lives. This analysis was performed through the following

procedures: initially, each balance of knowledge was read both by a professor researcher and by an undergraduate scholarship holder. In a second reading, the compositions were reread, and the learnings identified and classified. Then the learnings of each type were counted in all texts. A classification proposed by Bernard Charlot (2009) was used which divides learnings in:

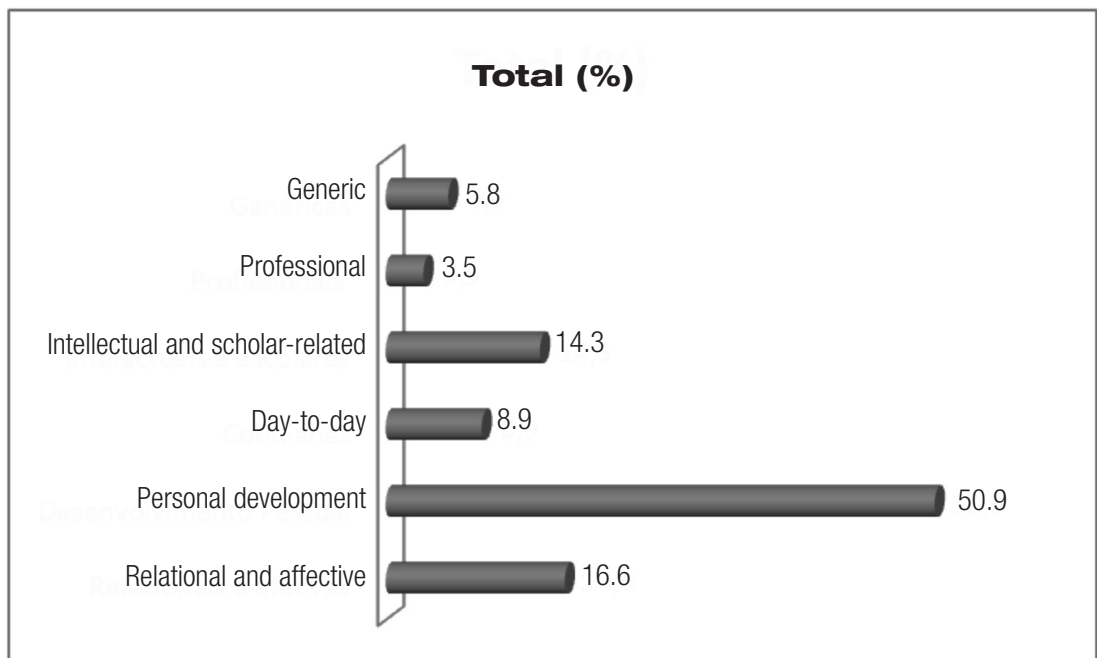
- *Relational/Affective*: interpersonal relationships and affective-emotional behavior, e.g., "I learned to love", "I learned to relate to people", "I learned to live with differences".
- Connected to *Personal Development*: personal achievements, ways of being, values, e.g., "I learned to be honest", "I learned not to give up in the face of difficulties".
- *Day-to-day*: tasks and activities performed on a daily basis, e.g., "I learned to walk", "I learned to get dressed by myself".
- *Intellectual/school-related*: learnings that involve mental operation or school tasks, e.g., "I learned to read and write", "I learned to do homework".
- *Professional*: learnings connected to work life, e.g., practices and contents directly related to a profession.
- *Generic/tautological*: e.g., "I learned many things", "I learned a lot".

This analysis allowed finding the rate at which the different learnings were remembered by the studied undergraduate, which we present in the next section.

The different learnings and the processes of relationship to learning

Considering the group of students participating in the study (Chart 1), we can see a total 1,920 learnings remembered, 50.9% of which were classified as connected to personal development, 16.6% as relational/affective, 14.3% as intellectual/school-related, 8.9% as day-to-day, 5.8% as generic/tautological, and 3.5% as professional learnings.

Chart 1 – Totals for all areas



Source: Field research.
Valid cases: 1,920 learnings.

Therefore, in regard to the whole group of students, we can see the predominance of learnings connected to personal development, which account for over half the total of learnings mentioned in the balances of knowledge. Intellectual/school-related learnings were mentioned three times less often than personal development learnings, and slightly less often than relational and affective learnings.

We were interested in finding whether this distribution varied by knowledge area. Therefore, we treated the data by course, and then grouped them by area. Then, we presented the data for the three knowledge areas, which showed no significant variation.

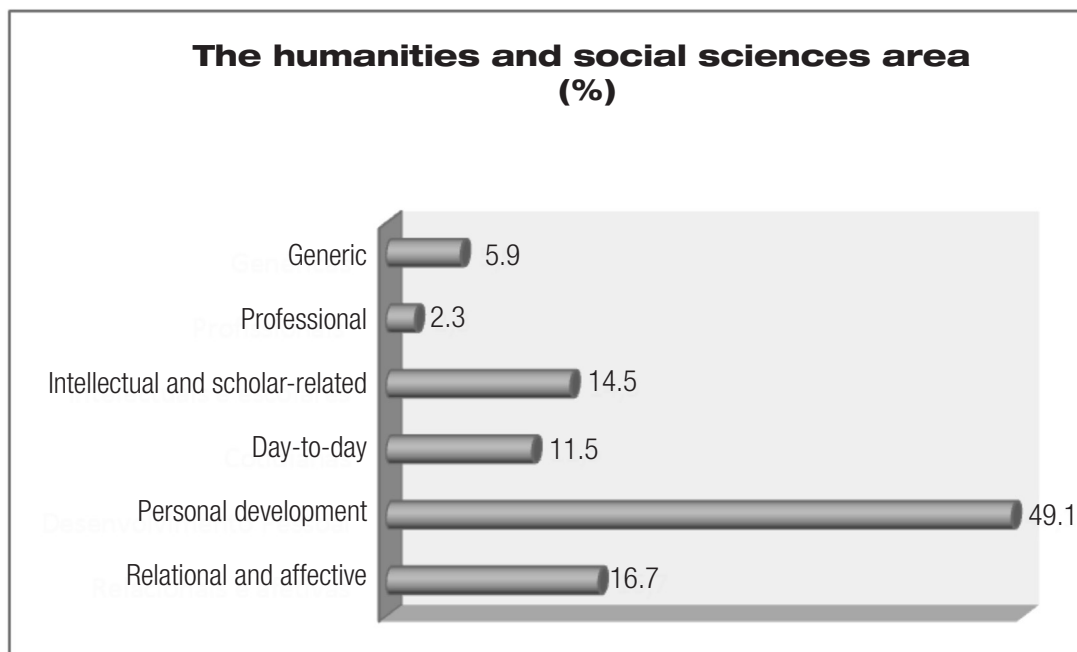
The 150 balances produced by administration, graphic design, law, history, journalism, letters, pedagogy, psychology, and social work students were grouped together in the humanities area. In Chart 2 below, we can see that in a total 826 learnings remembered by these students, personal development and

relational/affective learnings stand out with 49.1% and 16.7%, respectively. Next are the intellectual/school-related learnings (14.5%), followed by day-to-day (11.5%), generic (5.9%), and professional (2.3%) learnings.

In the group of students of humanities, we can see virtually the same distribution as found in the whole studied population regarding generic, intellectual/school-related, personal development (this last therefore still dominating), and relational/affective learnings. In relation to the overall total of students, humanities and social sciences students remembered professional learnings less often, while day-to-day learnings were remembered more often.

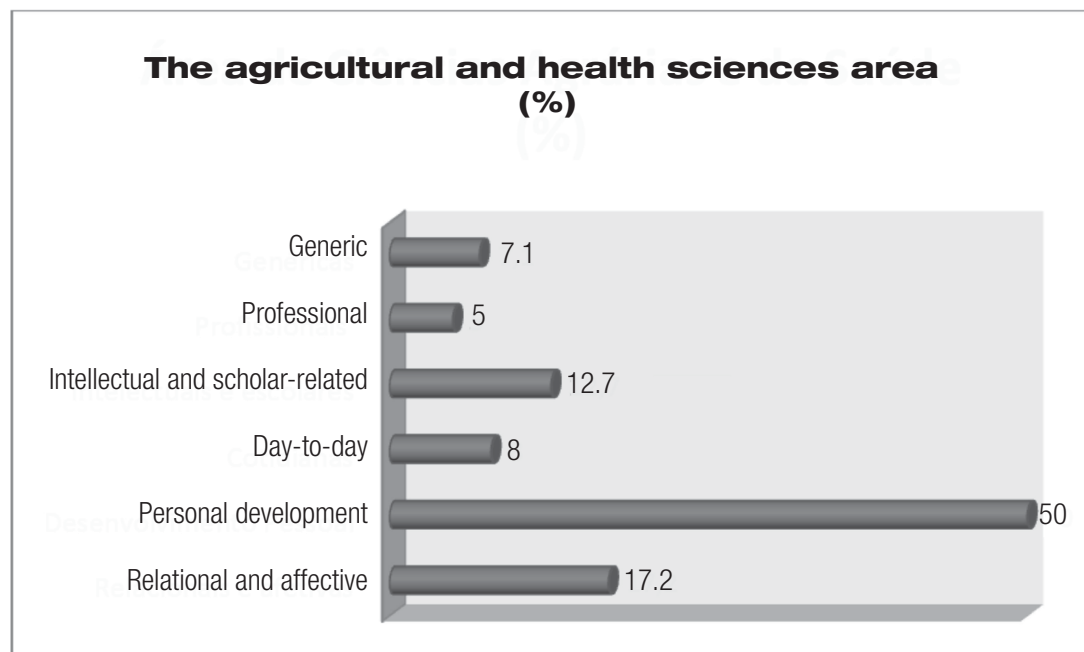
The predominance of learnings connected to personal development is also noted in the set of 464 learnings remembered by the 162 students in the courses of agronomy, biological sciences, physical education, pharmacy, physiotherapy, nutrition, and dentistry, which were grouped together as the agricultural and health sciences

Chart 2 – The humanities and social sciences area



Source: Field research.
Valid cases: 826 learnings.

Chart 3 – The agricultural and health sciences area



Source: Field research.
Valid cases: 464 learnings.

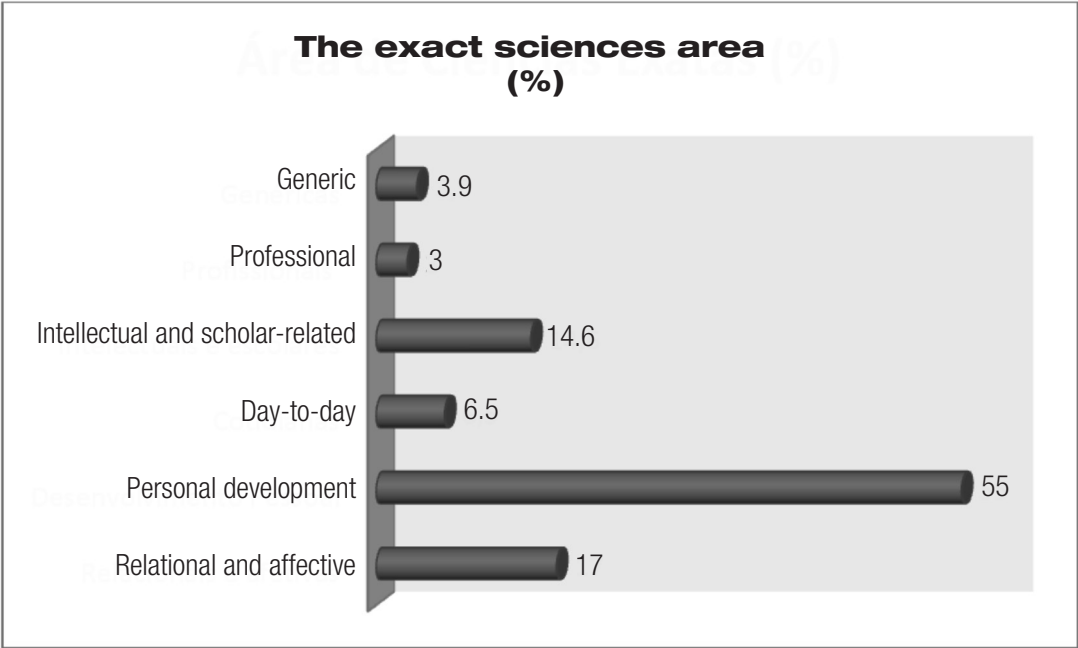
area. As shown in Chart 3, learnings connected to personal development account for 50% of the total, with affective/relational accounting for 17.2%, intellectual/school-related, 12.7%, day-to-day, 8%, generic/tautological, 7.1%, and professional, 5%.

Therefore, the predominance of personal development-related learnings is repeated here. In relation to the overall total of studied subjects, the agrarian and health sciences students remembered in their balances of knowledge a more significant number of professional

learnings, while intellectual and school-related learnings appeared in a larger number.

Among the students in exact science courses (architecture, accounting, computer, information systems, civil, environmental and electric engineering), 88 balances of knowledge were produced, presenting 431 learnings remembered. As shown in Chart 4 below, 55% of these were connected to personal development, with relational/affective accounting for 17%, intellectual/school-related, 14.6%, day-to-day, 6.5%, generic, 3.1%, and professional, 3%.

Chart 4 – The exact sciences area



Source: Field research.
Valid cases: 88students, 431 learnings

Therefore, in relation to the whole group of students investigated, the exact sciences students remembered a larger number of personal development-related learnings and a smaller number of day-to-day, generic and tautological learnings. Table 1 below shows this comparison between total students and each knowledge area.

Therefore, we can see that both in general and in each area, the processes built

by students in the relationships they establish to knowledge are marked by an emphasis on learnings connected to personal development. At the same time, learnings that one would expect in relation to higher education, such as the intellectual/school-related and professional categories, appear less frequently. It is interesting to stress that the predominance of learnings connected to personal development appear in all three knowledge areas – in other

Table 1 – Total students and the different knowledge areas

	Total for all areas	Humanities and Social sciences	Agricultural and health sciences	Exact sciences
Generic/ Tautological	5.8%	5.9%	7.1%	3.9%
Professional	3.5%	2.3%	5%	3%
Day-to-day	14.3%	14.5%	12.7%	14.6%
Intellectual and school-related	8.9%	11.5%	8%	6.5%
Personal development	50.9%	49.1%	50%	55%
Relational and affectiv	16.6%	16.7%	17.2%	17%

Source: Field research.

Valid cases: 1,920 learnings

words, it is not a characteristic unique to courses of humanities, where contents somehow refer to human development.

We are thus allowed to suppose that “learning to live” is important to all students, and that the university is a space for this learning, not only because of its contents, but also because of the interpersonal experiences it promotes, as well as a “preparation for the labor market” that involves individual aspects, ways of being, personal achievements, and values.

What reflections can we undertake based on the numbers above? How should we analyze the fact that, as they wrote about their learnings, the undergraduate students that we investigated mentioned a much larger amount of elements of their personal development in comparison to school-related and intellectual/professional learnings?

In the search for constructing these answers – and other questions – we find it relevant to directly approach the texts produced by the students, thus complementing the initial movement of numerically registering the types of learning. While the previous data refer to all learnings remembered in the balances, the following excerpts from them approach only the learnings attributed to spaces and agents related to higher education. In other words, we selected

what students say that they have learned *in university, in the undergraduate course, and from faculty and undergraduate colleagues.*

Although we will present excerpts of texts produced individually and, at this second stage, our focus is no longer on quantifying the learnings, we proceed with our analysis considering the group of students as a whole, since understanding the individual logics and meanings would require other methodological procedures. By bringing in students’ own words, we aimed at bringing our analysis closer to the different ways in which they organized the accounts of their learnings.

In this analysis, we can generically consider the subjects of the study as divided in two groups. The first group consists of students who in their balances of knowledge associate the university only with the learning of values, ways of being, and rules of coexistence. In their balances of knowledge, neither intellectual/school-related nor professional learnings are remembered. Only learnings as the ones in the examples below are attributed to university:

I have learned that we live in community and that there are limits and rights to be respected so that there can be good coexistence. This learning was passed over

to me by my family as well as through my experience in the university and the environment I live in. (Male agronomy student, 22 years old.)

As a student, each day I learn how important it is to coexist with people, and simplicity despite all the challenges (Female accounting student, 21 years old.)

Since I was born, I have learned values that are important to each person: I have learned to live with people who are different, whether in daily coexistence or in their ways of acting and being, particularly in college. (Female physiotherapy student, 20 years old)

My parents were my first educators, even though they couldn't read or write so well. From my teachers I have learned many things, one of which is to be supportive, which I am learning each day from my children and husband and the people around me, particularly here at the university, which is a real school, sharing this living is a learning each day. (Female nutrition student, 43 years old)

In the schools I have gone to, and in the university I am going now, I have learned from both teachers and classmates to be more understanding, dynamic and communicative. (Female information systems student, 20 years old.)

I have learned in college that we can be anything that our mind is able to create and that our body allows us to be. One great place to enter the job market, enjoy the best parties and be sure of having actually learned about life. (Male information systems student, 20 years old)

Here at the university, I am learning that which may be the greatest of lessons: respecting

differences and coexisting well with all those things I didn't use to find so common, for since here we always find people of all kinds, showing respect and understanding is *totally indispensable*. (Female biological sciences student, 21 years old)

In the balances of knowledge that these excerpts are from, university learnings appear as a sequence undifferentiated from those acquired within the family and around town. These students do not stress other learnings besides those linked to personal development and affective relations, both of which are learned while experiencing interpersonal relationships. Going through higher education is remembered as the acquisition of ways of living and relating, learnings to which they attribute the qualification for life in society and work.

In contrast, the second group of students remembered both intellectual/school-related and professional learnings as key elements in their learning processes. In some of the balances of knowledge, these learnings appear along with the previous types, while in others they appear alone. Technical-scientific knowledge and professional development are, in some of the texts, prized in relation to other learnings. School, university and teachers are recognized as specific spaces and subjects that are only meant for certain learnings.

In school, we learn to read and write, and in the university we learn to be professionals. (Female agronomy student, 21 years old.)

At home, around town, in school, as well as in university, I have learned to practice everything I had learned, such as respect for others, loyalty, friendship, honesty, and I also complemented the technical learning, which only places like the school and the university could give me. (Female accounting student, 22 years old.)

In schools and universities, we acquire scientific knowledge, while also putting into practice all the upbringing we received at home from our family. (Female physical education student, 21 years old.)

In the university, after choosing one's future profession, one acquires the theoretical-scientific knowledge, the practical knowledge and the introduction into the routine of one's ideal profession through internships, work and the relationship with classmates, teachers and professionals. (Male pharmacy student, 20 years old.)

In college, I have learned things that certainly, if I weren't here, I wouldn't have, through teachers (Female letters student, 22 years old)

I have learned that when you fix a goal in life and strive for it, it is normally achieved, I've learned to respect everyone and that no one is superior to anyone else, that sucrose is very harmful to the teeth and that you don't need to brush your teeth 3 times a day (but don't tell that to patients, or they won't do it even once a day). I have learned so many things that is hard to describe, since in the last four years, my technical knowledge has tripled. (Male dentistry student, 22 years old)

In university, I've had other experiences, learning is processed in other ways, through practical activities, not only theoretical classes, but also laboratory and clinical work. It has been possible to learn not only about course-related subjects, but also about the great importance of our future profession. (Female dentistry student, 21 years old.)

In school, I learned to build true friendships and the basis for a better future. In university, I've learned the mechanisms

for good professional practice, always respecting my code of ethics. In the internship, I've been able to put into practice everything I was taught in college. (Female social work student, 21 years old.)

From my teachers, I learned to read, write, mathematics, and about the history of humanity, and now I am learning my profession. (Female social work student, 20 years old.)

I've learned from the internship and therapeutic communication teachers how to deal with the patient and his singularities. I've learned from the teachers of semiology and nursing fundamentals how to have a holistic vision of the patient and always perform proper practice. I've learned from the teachers of ethics and adult health, among other disciplines, that as a nurse you must conduct yourself as such, be ethical, and always pursue knowledge. (Female nursing student, 21 years old.)

In the pedagogy course, I've learned about several fields of study, such as philosophy, anthropology, sociology, didactics and research in education, foundations that will show my way of thinking and doing things in the places where I promote the construction and formation of people and knowledge. (Female pedagogy student, 21 years old.)

Therefore, as we have seen, this second group of students experiences the university as a space of intellectual/school-related and professional learnings, although some of them also remember relational/affective or personal development-related learnings as they mention what they have learned in their undergraduate courses.

How can we analyze this difference among balance of knowledge texts? Do the students who remember intellectual/

school-related and professional learnings, and who recognize them as pertaining to the university, establish processes of relationship to knowledge that differ from the processes of those who do not? What does this difference consist of? These questions add to those concerning the predominance of personal development-related learnings in relation to intellectual/school-related and professional learnings as previously mentioned. One question seems central to us: what is the meaning of investigated students remembering more often learnings that to us do not seem most connected to university education, even in a study conducted within classrooms?

The analyses conducted by Bernard Charlot on the data that he found while researching relationship to knowledge in youths from vocational schools in the outskirts of Paris can help us in our attempts to answer the questions raised herein. The data were collected from 1993 to 1995, from 533 balances of knowledge produced by students from those institutions. The results of his study show that relational/affective learnings account for 38% of the learnings mentioned, while those connected to personal development accounted for 10%. The intellectual/school-related learnings accounted for 24% of total learnings remembered, most of which the author considered weakly related to the specificities of school contents and activities:

The actual relationship to knowledge emerges in a particularly vague way. Basic school activities (reading, writing, mathematics) have much meaning to them. However, these point to the beginnings of school life, and what follows does not seem to have marked them. They will go to school to do what one is supposed to when one goes to school, and they expect this conformity to allow them to have “a good profession”, or at least a job. (CHARLOT, 2009, p. 34)

The same can be said, according to the author, about the professional sphere to which

youths do not seem very mobilized. He concludes that to French youths in vocational schools:

[...] learning is, firstly and most importantly, developing relationships with others, being able to disentangle oneself in the world, understanding life and people, and, if necessary, knowing how to defend oneself. (CHARLOT, 2009, p. 34)

He notes, moreover, that the young subjects of his research believe school is very important, but they are not mobilized *in* school, in relation to school activities. In other words, they lack true engagement in school life and in the appropriation of knowledge. To this end, it is necessary for “...knowledge itself (education, culture) to emerge as key to the anticipated desirable future” (CHARLOT, 2009, p. 77), a mediation that the author could not find very often. What appears as a mediation between the present and the desired future is not knowledge, but the studies and the certificate. In these cases, the question of knowledge is not central to the relationship of the student to the school institution. Charlot (2009) writes about an opposition between knowledge and life in order to understand the relationship of French youths to knowledge. To them, life is important, rather than knowledge, and in school, living is not learning, but rather coexisting with schoolmates. With regard to one aspect, however, school makes sense to these youths: it is an important relational space. This emphasis on the relational aspect may be understood as a deviation:

[...] students are mistaken as to role of school, they do not realize its specificity, they familiarize it and turn the institution into a place of coexistence, thus turning it away from its goal. (CHARLOT, 2009, p. 83-84)

According to the author, this interpretation, however correct, is not sufficient. It is necessary to consider that “...the learning of relationship

with others is also a form of culture” (CHARLOT, 2009, p. 84). Therefore, these students require a culture that allows them to understand life, the world, others, the relationships with others and with themselves. The author’s considerations about the different dimensions of the emphasis on relational/affective learnings seem important to us as they allow a broader, more complex understanding of the processes of relationship to knowledge of the subjects in our study.

In a study conducted in 2009, we used balances of knowledge to analyze the relationship to knowledge of 266 pedagogy students in two private and one public universities in the state of Minas Gerais (BICALHO, 2011). We found, among the students at the private institutions, that 30% of total learnings remembered were affective/relational, while personal development-related learnings accounted for 40%, day-to-day, 9%, intellectual/school-related, 15%, professional, 1%, and generic or tautological, 5%.

The data collected in the public university were slightly different, with intellectual/school-related learnings scoring higher, i.e., 29.9% of total learnings remembered, while relational/affective learnings scored lower: 19.7%. Nevertheless, learnings connected to personal development occupied the top position among the pedagogy students from the public university: 36%. Day-to-day learnings accounted for 10.8% of total learnings, while professional learnings accounted for 2.3%, and generic or tautological, 4.2%. The analysis of the texts produced by the students in their balances of knowledge showed that school knowledge types were constructed in relation to life knowledge types: either the former were a continuation of the later or their meaning derived from the relationship to changes in life. To the pedagogy students participating in the study, knowledge had a meaning when it enabled them to see the world in a different way, to find a place in it, and to relate with others.

Therefore, the results found in our investigation with 400 students in a community university did not seem to be

an idiosyncrasy of the studied institution. Charlot’s analyses based on the balances of knowledge produced in vocational schools lead us to make a “positive reading” of our data, i.e., an epistemological, methodological position which “...connects to the experience of students, their interpretation of the world, and their activity.” Therefore:

[...] conducting a reading is not only, nor fundamentally, realizing acquired knowledge types side by side with shortcomings, but rather reading in another way *what is read as a shortcoming* by a negative reading” (CHARLOT, 2000, p. 30, italics by the author)

Therefore, as we looked closely into the data in our study, we sought to avoid a reading focused on what students *fell short of*. In that negative reading, emphasis would be on the inadequacy of their expectations for, and connection to, education (whether basic or undergraduate) as they privilege personal formation based on ways of living and coexisting to the detriment of scientific and professional development. On the contrary, by pursuing a “positive reading”, we realize that, to students, school learning processes comprehend intellectual contents and processes as well as values and ways of being.

Thus, learning scientific and professional contents is a process that involves changes in how they see themselves, others, and the world. Graduating is also expanding one’s horizon, acquiring other ways of relating to others: professional development is valued as personal formation. Resuming the excerpts from the balances of knowledge that were previously analyzed, among the students who link higher education to intellectual/school-related and professional learnings we found different ways of *combining* personal development and scientific/professional development. We could also consider that the lack of mention to these learnings could indicate the need to develop

learning processes that can build a stronger relationship to academic knowledge.

As we analyzed the balances of knowledge, we identified a few recurring elements in the accounts which seemed clarifying to us about the different processes of relationship to knowledge experienced by the undergraduate students in this research. They are part of the picture formed by the emphasis on personal development, and can be understood using the concepts of *mobilization and meaning*.

Meanings in higher education and mobilization in relation to “knowledge itself”

Charlot (2000) proposes the concepts of mobilization, meaning, and activity in order to understand the processes of relationship to knowledge. The concept of *mobilization* points to the internal dynamics required for learning. Mobilizing is setting resources in motion. Mobilizing oneself is gathering one’s strengths for making use of oneself as a resource” (CHARLOT, 2000, p. 55). The definition of mobilization involves the concept of activity; the subject

[...] is mobilized in a certain activity when he invests in it, when he makes use of himself as a resource, when he is set in motion by motives which point to a desire, a meaning, a value. Thus, the activity possesses an internal dynamics. We should not forget, however, that this dynamics presupposes some exchange with the world where it will find desirable goals, means of action and other resources than itself. (CHARLOT, 2000, p. 55)

According to the author, the word *activity* was chosen in order to stress the presence of a subject who performs it. A subject who mobilizes himself, who sets himself in motion for certain activities. In order to understand this dynamics, Charlot uses the concept of *meaning*, which refers to: the possibility of establishing

relationships in a system or a set; the possibility of establishing relationships with other aspects or facts of the subject’s life; and the production of intelligibility about something. Therefore, there is meaning in:

[...] that which is communicable and can be understood in exchanges with others. In sum, meaning is produced by establishing a relationship, within a system, or in relationships with the world and with others. (CHARLOT, 2000, p. 57)

Based on these three concepts – meaning, mobilization, and activity – we resume again the balances of knowledge for elements that can help us understand the processes of relationship to knowledge of the subjects in this study. In the texts produced, students expressed the attribution of different meanings to higher education by saying what they were seeking in university, what they expect from finishing their undergraduate courses, and how they project their images as *graduates*. The first meaning is that of higher education as a way to a better life, the overcoming of difficulties, and recognition in the job market. It is what emerges in the following accounts:

I expect to graduate and have an adequate life in order to make for the difficulties already experienced, and to see this as a learning for the future. (Male architecture student, 22 years old)

I hope that in a very near future all this knowledge will be enough for me to face this world. (Female accounting student, 21 years old)

What I hope for me in the future is to be happy, graduate, have an excellent family and find myself a good job, this is all I want. (Male pharmacy student, 20 years old)

Now I find myself here, within a university, striving to get something better for my

children and myself. Consequently, I will be able to give them everything I could not have, including support with studies. (Female letters student, 31 years old)

Now I am about to graduate, I know this is a unique opportunity and it will open doors so I can have a bright professional future, thus becoming happier each day. (Female psychology student, 24 years old)

Therefore, to several students, university means the guarantee of a better life and a stable future. How does this meaning that is attributed to university compose the relationships they establish to knowledge?

We propose two readings: on one hand, attributing to higher education the meaning of chances of a better future – for the student him/herself and others – is a way of valuing this process, and it may be a mobilization factor for students in relation to their studies. On the other hand, it is important to ask, as Charlot (2009) does when analyzing his research data, what is the position of learning in this way of valuing higher education, and it may be that, in some cases, higher education is being valued without considering the learnings occurring therein. In this second case, a *utilitarian* higher education trajectory may be happening that is solely concerned with overcoming stages, without establishing a relationship to the knowledge of university.

We identified a second core of meanings attributed by the students to higher education: to a number of them, the undergraduation process causes a significant personal change, as well as a change in perspectives, in ways of seeing the world and being in it, and in relating to people. A few excerpts from balances of knowledge expressing these meanings are shown below:

As we enter the school environment, the meaning of life is defined even further. (Male physical education student, 20 years old)

In college, your mind becomes more “open”, many concepts are reconsidered. (Female physiotherapy student, 20 years old)

I entered the university with a financial purpose only, but with the new knowledge I acquired, I saw the world around me in a different perspective, one of doing something, of trying to change that which can still be changed. (Male history student, 44 years old)

In the university, I found that the universe is not me or my town. I learned that there are infinite galaxies and that I am insignificant near them, but also that in my world I am everything. In undergraduation, I have learned that many people think like me or differently, but that doesn't mean I am a Master... or a Ph.D. I discovered that knowledge is endless, and that new things are discovered each day. I can be an inventor... of theories. (Male journalism student, 21 years old)

In the university, I am experiencing a new time, I could say it has been a watershed in my life. There is before and after. Its importance was discovering myself as a person, the autonomy and freedom to be myself. (Female psychology student, 33 years old)

I entered the university and I realized I had not learned anything in life yet, that my life is beginning here for the world out there. (Female social work student, 26 years old.)

With the opportunity of adding new knowledge into my life, I have learned a number of ways of thinking and acting, what I think I will be. (Female pedagogy student, 23 years old)

The university experience seen as transformative of subjects' ways of seeing the world, their horizons, and themselves,

is a process of relationship to knowledge that helps to understand the relevance of learnings connected to personal development in the balances of knowledge. Attributing this meaning to university reveals that, to the subjects, both scientific and professional learnings also mean learnings relating to their ways of seeing the world, their ways of living, and their values. In other words, as they proceed in their undergraduate courses, many students experience a process of personal change, which was expressed in the balances of knowledge and then analyzed by us as personal development-related learnings. As we reflected previously in the quantitative analysis of data, we can also identify, based on the excerpts, the connection between the process of scientific/professional education and the processes of personal development.

The meanings attributed to higher education are also connected to the mobilization for *knowledge* (understood as intellectual content), or the relationship to object-knowledge. A few balances of knowledge express this mobilization. In these balances, students mention the pleasure of learning and the desire for it, with knowledge emerging as that which the subjects love and pursue, and which gives their life a meaning and is an integral part of their identity.

I have learned how good it is to learn, study, read... and the pleasure in just getting to know interesting things. The question of the search for knowledge is valid in each field of life: personal, academic, and professional. Just as with memories of moments and people we love, the knowledge we acquire are goods that no one can take away from us. (Female design student, 19 years old)

It was in the school and in the world that I found myself, it was through this desire for knowledge that I was pushed forward. (Male design student, 34 years old)

I hope I will never stop studying, because I feel it makes no sense at all being and living in society and not understanding what it produces, has produced and will still produce. (Male journalism student, 23 years old)

The best things, I learned them in school; there I found my passion: literature and cinema. In school, I learned to enjoy studying, to hate Portuguese, but to love writing. I learned that even if you cannot stand numbers you can be good at them. I found that I am definitely a scientist by nature, a potential researcher. I don't ever want to stop reading and watching films. That makes me live. (Male journalism student, 21 years old)

My teachers were very important to me, they were real transmitters of knowledge, and from them I learned to "enjoy learning". This is how I define my search for knowledge. It is this desire for knowing new things and knowing the world that drives me to always seek knowledge, and it was exactly the perception of this desire that brought me to the teaching course. (Female letters student, 19 years old)

In the university, I learn and have learned each moment the pleasure of learning. To my life, this experience is priceless. (Female psychology student, 26 years old)

Therefore, knowledge is what brought me here, right now, and it is what keeps me here. It is also my motivation and my reason to seek something better for myself and to leave my contribution to those who will come. (Male electrical engineering student, 22 years old)

In these accounts, *knowledge* occupies a central place – it is sought, desired, and it seems to impart a meaning to attending an undergraduate course. Charlot says:

Thus the problems of meaning and, consequently, of pleasure, appear as the fundamental problems of school, teaching and learning. Reaching far beyond the dispute between traditionalists and constructivist, these problems point to the essential, which is knowing whether or not it is possible for the student to have an intellectual activity. (CHARLOT, 2005, p. 23)

The mobilization in relation to *knowledge itself* – which we identified as the third core of meanings attributed to higher education – serves as a theoretical tool for discussing the other two (valuing university as a means to a better life, and recognizing higher education as transformative of worldviews). This because, in both cases, in order for students to actually engage in the processes of learning in university, understanding and mobilization are necessary in relation to the particular types of knowledge of the course attended.

To resume the predominance of learnings connected to personal development in the balances of knowledge, we consider that the construction of relationships to knowledge based on intellectual engagement and intellectual mobilization (CHARLOT, 2005, p. 54) could be a way through which intellectual/school-related and professional learnings, which are specific of the university, can make more sense to students.

Final considerations

Resuming the data and discussions presented in this paper, we can say that the relationship to knowledge of the undergraduates in this study is founded on the valuing of learnings connected to their personal development. Now considering particularly the processes of relationship to knowledge developed in the university, we found two situations: one group of students perceives that institution as another stage in their personal formation process, while the other attributes to higher education not only a personal formation

role but other functions, which are connected to intellectual/school-related and professional learnings that pertain to higher education. Therefore, we consider that higher education is a process of learning ways of being and relating to others and the world. It is also, to some of the undergraduates, a space for scientific learning and professional development.

The understanding of the processes of relationship to knowledge found in these students was also constructed, in this study, using the concepts of meaning and mobilization. We saw that the meanings attributed by students to higher education are organized around three cores: the pursuit for a better future; changes in ways of seeing the world; and the mobilization concerning *knowledge itself*. By analyzing these three cores, we eventually came to consider that the questions concerning the desire to learn and intellectual mobilization are central – and have to be constructed by students – in the university teaching and learning processes. Recognizing the university only as a space for personal formation connected to values and ways of being could therefore mean failure to understand the specificities of university knowledge.

This is, in sum, the understanding of the undergraduates' processes of relationship to knowledge that we constructed based on our analyses of the balances of knowledge that they produced. It is the answer that we provide to the questions we proposed about the processes of relationship to knowledge in a private community university located in a mid-sized city in the state of Minas Gerais. Once we have found it, we now resume the concerns that justified the study question, and new questions emerge: how do these processes of relationship to knowledge reflect on higher education teaching and learning processes? What demands and challenges are posed to pedagogical practice?

Once again, in order to found this reflection, we adduce Bernard Charlot's (1997) consideration. To him, entering the university is directly connected to understanding and

acquiring the logics of university knowledge, which requires operating with the different types of knowledge in a decontextualized way, as well as resignifying the experiences of life and work in other knowledge systems. Therefore, *being in the university* should trigger other relationships to knowledge. It is this realization that has brought us to the question of the meaning of school knowledge and the role of university in the relationship to knowledge established by these students, as well as the meanings of the university in their lives, and to what extent *being*

in the university enables intellectual learnings and puts them in a position of acquiring significant learnings.

Aware of the role of the university in producing certain types of learning, and the heterogeneity of the public of the university, particularly in private higher education, we sought, through the discussion conducted in this paper, to highlight the importance of undergraduation courses being spaces for the circulation, acquisition, and production of knowledge.

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