Chapter 6

Exploring perceptions of education amongst Mozambican high school students

Introduction

In Chapter 3 we argued that in the context of the present study, *perceptions of education* are to be understood as referring to personally held conceptions about schooling and learning. In this chapter two empirical studies on this construct are presented. The first, labelled *Study C* is an interview-based survey of the perceptions of education held by Mozambican high school students, our target group in this research. The second study, labelled *Study D* was developed from the outcomes of the first one. It is a questionnaire-based inquiry that examines the extent to which the surveyed perceptions of education can be seen as consisting of clusters of conceptions about the hypothesised constituent categories. The purpose and the approach of the two studies are elaborated further in Section 6.1. Section 6.2 describes *Study C*, while Section 3 is about *Study D*. The presentation of each of the two studies includes the method, data processing, and analysis. Section 6.4 provides a summary of the overall study on the perceptions of education of the targeted group.

6.1 Purpose and approach

On the whole, the purpose of investigating students’ perceptions of education was twofold:

i. to survey the perceptions of education (conceptions of schooling and conceptions of learning) held by high school students, through an interpretation of the categories of description used to express those conceptions, and

ii. to examine the extent to which perceptions of education could be regarded as consisting of clusters of interrelated conceptions about schooling and learning.
The investigation adopted a combination of both qualitative and quantitative approaches, hence also a combination of the respective methods of data gathering and analyses. Such procedures seemed to offer a comprehensive and meaningful way of accomplishing the complex purpose of the study (Greene & Caracelli, 1997a, 1997b). Similar design was adopted by Klatter, Lodewijks and Aarnoutse (2001) in their study on young students’ conceptions of learning. That study inspired our conceptualization of perceptions of education as a set of interconnected beliefs about several aspects of education.

Qualitative in nature, the first step of the study consisted of conducting and processing semi-structured interviews with a sample of students from the target group. Administered individually to each respondent, the interview addressed specific topics thought to be relevant for eliciting students’ account of their experiences and perceptions of education (schooling and learning). Those accounts were analysed under the phenomenographic methodology. The emerging categories of description were then used to devise a Likert-type questionnaire, which was administered to a large sample of respondents in the second step of the study, under a quantitative approach. The methods of each of these two steps of the study are herein described in detail. As pointed-out at the outset of the chapter, the first step will be known as Study C and the second as Study D.

6.2 Study “C”- An Interpretive Study

6.2.1 Method

At this stage the concern of the investigation was on surveying the variations in students’ experiences and perceptions of education, namely, their perceptions about schooling and their learning process. To that end, an interpretative study, based on a phenomenographic methodology was adopted. This methodology allows coherent meaning to evolve from respondents’ accounts of their experiences and perceptions. Specifically, phenomenography is a research methodology that describes the limited number of qualitatively different ways in which people experience, conceptualise, understand, perceive and apprehend various aspects of the world surrounding them, including physical and social phenomena. The surveyed experiences and perceptions are characterised in terms of
categories of description, internally related in a logical and hierarchical way, under certain criteria (Marton, 1981, 1994; Trigwell, 2000).

6.2.1.1 Participants
To capture a wider variation of the ways in which the target group of the study experiences and conceptualises schooling and learning, a diversified sample of respondents to the interview was considered. It consisted of 23 volunteer students from the 4 schools that participated in the overall study. Ten were male and 13 female. Their age mean was 19.6 years old. Table 6.1 provides further details of the sample distribution.

Table 6.1. Distribution of the interviewees (Study C)

<table>
<thead>
<tr>
<th>School</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1 (Maputo, Urban)</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>School 2 (Maputo, Suburban)</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>School 3 (Maputo, “Mixed”)</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>School 4 (Inhambane Province)</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>13</td>
<td>23</td>
</tr>
</tbody>
</table>

Out of the 23 interviewees, 8 were majoring in Arts, while the remaining 15 (8 female) were enrolled in Science-oriented streams. Taking into account students’ responses about parent’s levels of education and occupation\textsuperscript{65}, it was realised that a wide spectrum of social backgrounds was represented in the sample.

6.2.1.2 The interview
The interview questionnaire consisted of six open-ended questions, five of them covering equal number of aspects related to education (in general) and to learning. The last question was meant to capture students’ overall understanding of learning. The six questions were:

1. Having attended school for many years, can you tell me your reason(s) for attending school?
2. What is your goal when studying a particular school-subject?
3. How do you study?
4. What conditions or aspects you consider the most important so that a student can learn well?

\textsuperscript{65} - The reported parent’s level of education ranged from illiterate to university degree holders, with a distribution highly skewed to the left. Following a similar distribution pattern, parents’ occupations included unemployed, peasants, bazaar and street vendors, mechanicals, teachers, nurses, economists and engineers.
5. Some students appear to be more dependent on teachers than others. How would you classify yourself on that?
6. So, having said all that, then what is learning, in your opinion?

Questions 1 and 2 were meant to cover what we have termed ‘conceptions of schooling’, that is, the more general education related beliefs, such as the aim (or motive) of getting formal education (question 1), and the goal (purpose) of learning academic subjects. Questions 3 to 5 covered aspects inherent to the actual beliefs about learning, namely the behaviours (activities) students engage in when studying (question 3), the conditions (requisites) students perceive as being the most important for the learning process (question 4), and the kind of regulation-source (external or internal) they think as the most functional in their learning activities (question 5).

6.2.1.3 Procedures
Respondents were interviewed individually in Portuguese (the official language and medium of instruction in Mozambique). The interviews were administered by the researcher within the premises of the interviewees’ schools (e.g. vacant classroom, school canteen, or courtyard), upon permission of the schools’ authorities. With the consent of the respondents, the interviews were tape-recorded for further processing and analysis. The questions were not always asked in the sequence in which they were presented in the interview schedule. Ultimately, the sequence of the questions would depend upon the degree of empathy achieved during the introductory conversation, in which, apart from welcome and thanks remarks, the researcher asked questions related to the respondent’s demographic data and to his/her social background. Probe questions were asked whenever necessary, either to clarify the main question, or to overcome the lagging of the conversation. Here are some examples of probe questions used:

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66 - Two female students, one in Inhambane and another in Maputo, did not allow the researcher to tape-record the interviews, for reasons that they could not explain. For ethical reasons, the interviews were run with the tape-recorder off. Because note-taking proved not to work for a thorough reconstitution of the conversation, those interviews ended up not being considered for further analysis.
Main question 1: *Having attended school for many years, can you tell me your reason(s) for attending school?*

Probe questions: (a) Could you explain more why you take the trouble of coming to school instead of doing something else?
(b) What do you mean by “studying in order to have a future” in your life?

Main question 2: *What is your goal when studying a particular school-subject?*

Probe questions: (a) So, after all, what do you focus on when studying a school-subject, say, Physics or History?
(b) What do you mean by “filling-up a person with lots of information”?

Main question 3: *How do you study?*

Probe questions: (a) And how do you overcome difficulties in grasping the subject, when studying?
(b) You are suggesting you study at the library. OK. But, once there, how do you recap subjects such as Mathematics or Geography?

Main question 4: *What conditions or aspects you consider the most important so that a student can learn well?*

Probe questions: (a) I am asking you to indicate one or more things without which, you think, learning cannot occur.
(b) So, are you saying that the most important element in the learning process is the student? Explain how?

Main question 5: *Some students appear to be more dependent on teachers than others. How would you classify yourself on that?*

Probe question: (a) You are saying that some of your teachers are not good at delivering knowledge? So, having those teachers, how do you “survive” in your student life?
Main question 6: *So, having said all that, then what is learning, in your opinion?*

Probe questions: (a) *What do you mean when you say that learning is to have the information in your mind?*

(b) *When or How do you come to feel that you have learnt something?*

### 6.2.2 Data processing and analysis

The interviews were transcribed verbatim and printed for analysis. As already mentioned, rather than focusing onto the vastness or depth of each respondent’s experience, the analysis was aimed at describing the fundamental aspects of the variation in perceptions of education amongst the respondents. For this reason the analysis of the interview transcripts complied with the phenomenographic methodology. This methodology has been characterised as entailing five key aspects or ‘points of departure’. Firstly, it is typified as being philosophically and methodologically qualitative. Secondly, it is relational in the sense that the reality it is concerned with is that underscored in the relation between the individual and the phenomenon. Thirdly, phenomenography is a second-order approach once it deals with the experiences, perceptions and meaning of the reality/phenomenon as described by the informants and not with researchers’ perceptions of the reality or phenomenon the informants are confronted with. The fourth aspect concerns the focus. Phenomenology directs attention to the variation in the ways reality or phenomenon is experienced by a certain group. Lastly, this approach builds on the internally related and hierarchical categories of description of the variation in perceptions (Trigwell, 2000).

In the Portuguese version, the interview transcripts were two typed pages long, on average, for each interviewee. It was in Portuguese that the transcripts were reviewed and then summarised by the researcher in an iterative process. Attention was paid to the similarities and differences in meaning of the respondents’ accounts. Segments or typical expressions of the transcripts were highlighted and their further analysis allowed the identification of sets of categories of description for each question. These were used to map-out the variation in answers (perceptions) within each question. In practical terms, the categories of description were arrived at either through the use of “indigenous
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typologies”, created and expressed by the interviewees, and through the “analyst-constructed typologies”, created by the research during the process of data analysis (Patton, 1990, p.306; pp.393-400).

Reliability
Establishing categories of description from interview transcripts is a rather subjective process. To minimise that subjectivity, an inter-subjectivity agreement test was conducted. A colleague at the Academic Development Centre of the Eduardo Mondlane University, who was familiar with the research but blind to the researcher’s categories of description, was asked to vet the categories of description. Interview transcripts of 10 randomly sorted respondents were presented to that referee and he was asked to analyse the responses and establish his categories of description for all the six questions on the interview. A cross-check of the categories of description established by the researcher and those proposed by the referee indicated a degree of agreement between 68% and 87%. The lower levels of agreement (68% and 72%, respectively) were found on the categories of description in answers to question 3 (How do you study?), and in answers to question 5 (Some students are more teacher-dependent in order to learn, while others are not. How would you classify yourself on that?). Insights gained from the discussion with the referee allowed the researcher to refine his categories of description.

6.2.3 Results
The categories of description and the typical sentences or expressions from where they were established are presented for each question in turn, in an order that reflects a descending frequency in which the related answers were observed.

Question 1: Having attended school for many years, can you tell me your reason(s) for attending school?
Students’ answers to this question suggested personal and social motives behind school attendance. In some cases, those motives were reported in a non-mutually exclusive way, as the same respondent would start his answer by referring to personal motives, and then shift to mention the social ones, or vice-versa. The foregoing can be illustrated by the following segment of an interview:
To a certain extent, I can consider the school as a means of subsistence, as it is a step towards getting a new way of living. Attending a school stands not only for personal purpose but also for the development of the State (S-13).

The range of qualitative variation in the responses reflecting personal motives of attending school included three main aspects: material motives (those at a medium or long term, and related with a better personal future, namely in terms of salary and living standards), personal growth motives (related to intellectual development), and motives attached to self-esteem. These particular motives were treated as sub-categories under the category of personal motives, as illustrated below:

Category 1 Responses expressing **personal motives** for attending school:

**Subcategory 1.1 Personal-material motives:**
- “I do attend school for my own welfare. I mean, I study so that I can have a future in my life” (S-20)
- “Eh … I do attend school as a way of preparing my future. When I speak about future I mean better job, which is conducive to allow me enjoying good living conditions, that is, better standard of life than the one I am living under today” (S-15)
- “…To a certain extent, I can consider the school as a means of subsistence, as it is a step towards getting a new way of living.” (S-13)
- “I go to school in order to guarantee a better future for myself. I want to live well in the future, and have a calm life…” (S-11)

**Subcategory 1.2 Intellectual-development motives:**
- “I study in order to cope with developments in technology happening on an everyday basis” (S-5)
- “I do attend school because that is important for my development … for my mental development” (S-8)
- “When I study a certain subject, my first intention is to understand it and know why I am studying it. If I find the subject useful for me, then I try to deepen the understanding of it and make use of it” (S-18)
Subcategory 1.3 Self-esteem motives:
- “I study so that I can establish and maintain relationships with people of high social status” (S-17)
- “I consider lack of knowledge [lack of schooling] as a sort of poverty…” (S-16)
- “… to be trained in order to be someone in life” (S-3)

As stated above, students’ main motives for attending school shifted between the personal and the social ones. Social motives included those responses reflecting perceptions that school attendance has a societal end. This was expressed either in terms of a duty to the community or a service to the country. The respective sub-categories and some illustrative answers are here provided:

Subcategory 2.1 Social obligation/duty:
- “You see, I attend school because that is what I am supposed and used to do everyday” (S-23)
- “I think that the ultimate goals of learning something at school are: that of helping others, helping the country, and that of personal development. Esh…ah… help someone … a friend, a brother … ah, esh! ….” (S-4)
- “Only by going to school one becomes a real human being” (S-1)

Subcategory 2.2 Patriotic act:
- “I do attend school in order to develop the country” (S-14)
- “Attending school stands not only for personal purposes but also for the development of the State” (S-13)

From a phenomenographic perspective, categories 1 and 2 (personal and social motives, respectively) are logically related through exclusiveness, while subcategories 1.1, 1.2 and 1.3 (Personal-material motives, Intellectual-development motives, and Self-esteem motives, respectively), form a coherent hierarchical structure, departing from the most concrete to the more abstract purposes. As for sub-categories 2.1 and 2.2 (attending school as a social obligation/duty or patriotic act, respectively), complementarities seem to be reflected through the logical structure they portray.
Question 2: What is your goal when studying a particular school-subject?

Studying a particular subject was found to be perceived within a range of four goals. Point in fact, students’ responses to this question expressed perspectives concerned with either getting factual information about the subject (for unspecified purposes), or with making sense of the subject-contents (understanding). Some answers reflected that, irrespective of comprehension, students perceived the study of a particular school subject as performance-oriented, that is, aimed at enabling them face assignment-like purposes. Finally, there were answers reflecting that flaunting one’s ‘knowledge’ was also perceived as a goal of studying a school-subject. The four categories and their illustrative answers presented next.

Category 1. Responses expressing accumulation of information as the purpose of studying a scholl-subject:
- “I think the goal of learning is to build a person; to get a person filled-up with lots of information” (S-2)
- “I think that at our level, the objective of learning a subject is just for us to know it. At the university level, then, those subjects are the basis for taking special courses. So, I think it is that: we take the subjects because those are important in facilitating our understanding of our degree courses at the university” (S-6)
- “Well, in the 1st place I think of fixing as much of what is being taught. If I happen to have difficulties … well, don’t know … I try to go well with that particular subject, so to get well in the future” (S-9)

Category 2. Responses highlighting understanding as the purpose of studying a school subject:
- “You see, my primary goal is to understand that subject; demystify it, isn’t it?” (S-13)
- “Well, many things. For instance, I try to come to the truth or to a clear and objective definition of a concept” (S-8)
- “When I study a certain subject, my first intention is to understand it and know why I am studying it. If I find the subject useful for me, then I try to deepen the understanding of it and make use of it” (S-17)
Category 3. Responses suggesting performance goals in studying a school subject:
- “Well, I try to fix the subject, so to get good marks at the assignments” (S-19)
- “Knowing is a self-defense instrument. If I know something, I then can answer to questions related to that subject” (S-5)
- “...Sometimes I consult books in the library, looking for solutions to a particular problem or exercise that may be given by the teacher as an assignment…” (S-20).

Category 4. Responses revealing the boosting of the “ego” as the purpose of learning:
- “The goal of learning is to know! To know ... well, at least one becomes different from those who never attended school. For instance, in the ways in which one expresses him/herself in Portuguese [laughs]” (S-3)
- “I learn in order to satisfy my curiosity concerning facts and phenomena…” (S-14)

The first three categories of description (accumulating information, understanding and answering to assignments, respectively), seem to form a logical structure as they reflect a progressive degree of complexity of the goals attainable with the subsumed ‘learning’ outcomes. Category 4 (ego-boosting) does not seem to fit logically in that structure, as the responses are not focused into actual goals of studying. Rather, they express perceptions about the purpose of knowing, similar to those categorised under “self-esteem” (sub-category 1.3) in question number 1.

Question 3: How do you study?
Analysing the responses to this questions two categories of description emerged. Category 1 was based upon responses reflecting active approaches to studying, while category 2 was drawn from responses reflecting passive approaches.

Category 1. Responses suggesting an active approach to learning:
- “Well, in order to study, one has to make some sacrifice, for instance, solving lots of exercises. One must also enjoy spending time at the library, reading, reading and reading…” (S-10)
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- “I try to join my colleagues for group study sessions, where we **discuss the subject**. In that way, even though each one brings his/her own ideas or answers regarding a particular question or assignment, we do come to a kind of consensus” (S-23)

Category 2. Responses suggesting a **passive approach** to learning:
- “Well, actually I do nothing so special apart from re-reading my notes, taken during the teacher’s explanation in class” (S-20)
- “When the teacher explains in the class, I pay a lot of attention” (S-22)
- “Well, I am attending a general school. In General Education the **teacher delivers the knowledge** in the class. He/she may or may not dictate but we have to take notes, from which we then can study...” (S-21)

The two categories are logically related and reflect the two classical approaches to learning: deep and surface approaches (Marton & Säljö, 1976a).

**Question 4: What conditions or aspects you consider the most important so that a student can learn well?**

Responses to this question were found to pinpoint at four categories of factors or circumstances students seem to perceive as instrumental in learning. Those varied from internal factors (e.g. self-commitment), suggesting the perception that learning depends mostly on the learner himself, to the external ones, conveying the idea that learning is heavily dependent on factors, other than the learner. These could be subdivided into material factors (e.g. books and other study materials, study and living conditions), and human factors (teachers and peers). Meanwhile, probe questioning was frequently used in this question to ascertain respondent’s answer, as in many cases they reported more than just one ‘important factor’. Even though, in some cases the ‘final’ answer would still pinpoint at more than one ‘important factor’. In general, teachers were cited as the most important factor, followed by ‘self-commitment’, material conditions, and group-work.

Category 1. Responses pointing to **teachers** as the main requirement:
- “Oh … the teachers are in the 1st place!” (S-3)
- “I think as students, we need good teachers in order to learn well. Books are important also but **good teachers are the key** for us to come to learn” (S-18)

- “I think it is the teacher. **When the teacher is good, a student learns fast.** Of course, some students can make it alone. However, **a teacher’s explanation is always good.** It makes things easier. So, when the teacher is not good and cannot explain things properly, even if the student is committed, he/she cannot be self confident. But if a teacher explains things well, it even motivates students to continue searching information from books, in order to get more knowledge” (S-11)

- “In principle, the most important is a strong will to learn from the student. Effort is also necessary. But, **more important than all is the teacher.** The teacher has to deliver lessons very clearly, I mean, he/she cannot be superficial because that would then require the students to investigate, which is not good because students get lazy and do not investigate” (S-10)

Category 2. Responses suggesting students’ **self-commitment** as the main requirement:

- “I think that the most important thing is **dedication.** A **student has to be committed.** No matter if one has a good teacher. If s/he is not committed, s/he won’t go nowhere” (S-5)

- “In order to learn well at school **one has to have initiative and commitment…** [laughs]. What matters is **effort and commitment.** By doing that, one can come to learn” (S-12).

- “I think that, in the first place, if one wants to learn, s/he has to show **dedication, make effort, investigate, be curious.**”(S-3)

- “**Commitment!** I really think that in order to succeed at school, a student has to be strongly committed. She/he must be **dynamic** but, above all, have a **strong will**, a really student spirit to learn. I say so because, unfortunately, there are those students who pay no attention to their duties as students. There must be a strong will to learn from the student side” (S-17)

Category 3. Responses implying that **material conditions** are the main requirement:

- “The situation is not good… **the social status has influence on learning.** Quite often, the **living conditions** of the students have to do with that lack of success as students” (S-1)
"In order to learn properly, I think one has to have the school material. A student needs to have the minimum in terms of school material. Other requirements are dedication and good will” (S-4)

"In order to learn well at school, we need conditions and facilities, particularly material conditions. Quite often it happens that people want to learn but, at a certain stage, they give up because of lack of money” (S-2)

Category 4. Responses suggesting group-work as the requirement

- “A group session is the only way of studying sciences” (S-5)
- “Well, I think we should ignore those living conditions problems… as we know, that is common in Mozambique, being a developing country. So, let’s ignore those problems and let’s study and create learning opportunities, such as studying in group, be more devoted to helpful learning activities. In that way, we will learn more” (S-1)

The overall outcome suggests the four categories to form a chain of requirements. The teacher is at the top, followed by self (student), and then by the material condition and finally by the peers, as the requirements for learning. Implicit in such a chain is the valuing of the teacher as the main pre-requisite for in learning, reflecting. This unveils the teacher-dependency characteristic of the target group.

Question 5: Some students appear to be more dependent on teachers than others. How would you classify yourself on that?

Answers to this question were found to vary from those expressing preference for external regulation, mainly a regulation exerted by the teacher, to those reflecting preference for self-regulation. Consequently, three categories of description were established. These were:

Category 1. Responses revealing teacher-dependency (external regulation) habits

- “When I fail to understand something in class, I really chase the teacher in order to get more explanation on the subject” (S-7)
- “In my case, I always need the teacher’s orientation for my learning, because he (the teacher) is the basic factor [laughs] … Other things, like investigation, depend on the teacher. He is the key element in regulating the learning process” (S-14)
Category 2. Responses indicating **peer-dependency** (shared-regulation)

- “I join my colleagues for group study sessions…” (S-18)
- “In many cases, I do not like too much seeking teacher’s explanation. While in the classroom, I keep attention to what the teacher says, I take notes and, well … I really do not find it easy to seek explanations from the teacher. I do prefer, … I feel more confident to see another colleague or friend who knows the subject, rather than to chase the teacher. This is not to say that the teacher cannot or is not in a position to explain. Otherwise, he is even more knowledgeable than a colleague or friend. In fact, I do not feel easy to approach teachers…” (S-4)
- “Well, it depends. Sometimes I find more understandable a clarification given by a colleague to a particular problem than the one from the teacher. You know, there are some colleagues capable of providing good explanations/clarifications. I am not saying they are better than the teachers, but I find their way of explaining more facilitating for a good understanding than the way teachers explain.” (S-20)
- “Well, if I happen not to grasp a certain aspect in class and realize a colleague of mine has understood it, I seek help from him/her, without any prejudice” (S-18)

Category 3. Responses suggesting **self-regulatory** (internal regulation) habits:

- “The student has to actively participate in class, raise questions and also make contributions” (S-8)

### 6.2.4 Discussion and conclusion

#### 6.2.4.1 Discussion

In this qualitative-interpretative study, high-school students’ perceptions about several aspects of schooling and learning were elicited through a semi-structured interview and then described and summarised into specific categories of description, using a phenomenographic approach. The schooling and the learning aspects considered in the study were as described next.
With regards to perceptions of schooling:
   i. the motives of getting formal education, and
   ii. the goals or purposes of learning academic subjects.

Concerning the conceptions of learning:
   i. the activities or behaviours undertaken in studying,
   ii. the conditions perceived as the most important for the learning process, and
   iii. the kind of regulation perceived as the most functional in learning.

Students’ account of their perceptions about those aspects of schooling and learning were drawn from a wide range of categories of description. Those were found somehow logically related and, in some cases, under clear hierarchical structures. Expressed conceptions about schooling suggested, on the one hand, personal and social motives for attending school. On the other hand, they indicated that students perceived the studying of an academic subject as aimed at getting factual information, understanding the subject, applying its contents, mainly in assignment situations, or for boosting their ego. Thus, six different categories could be established: Two under ‘motives of getting educated’ and named personal and social motives; four under ‘goals of learning’, namely factual knowledge gain, understanding, achieving and ego goals. Yet, under the personal and the social motives, some sub-categories could be established. These were: material benefits, intellectual development, and self-esteem, under the personal motives. Social obligation/duty, and patriotic act, under the social motives. The latter (social obligation/duty and patriotic act) resemble those categories under which the ‘atypical’ conceptions of learning were drawn in the already mentioned studies in Asia and in Africa (Purdie et al., 1996; Cliff, 1998; Sitoe, 2000 – Details in Chapter 4). As for the categories under the personal motives (material benefits, intellectual development, and self-esteem), they form a hierarchical structure interpretable under Maslow’s67 hierarchical theory of human motivation. Maslow regards humans’ behaviour as driven by a set of hierarchical needs, namely physiological, safety, social affiliation, self-esteem, and self-actualisation. Thus, the intellectual development motives expressed by our respondents (sub-category 1.2) could be seen as pertaining to the self-actualisation level in Maslow’s heuristic pyramid, while the self-esteem motives (sub-category 1.3) would

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correspond to an equivalent level in Maslow’s theory. It may sound rather odd but, for one particular reason, we dare classifying the material motives attached to schooling by our respondents under Maslow’s physiological and safety levels. As a matter of fact, when referring to a “better future” as something attainable through better education, our respondents think chiefly of better food and better housing. Some answers provided by our respondents are outspoken on that. We recall the following:

To a certain extent, I can consider the school as a means of subsistence, as it is a step towards getting a new way of living (S-13)

I attend school in order to get a kind of … social status and financial stability. I study so that in the future I may be able to feed myself and my family … have a kind of stability in life (S-1)

I’ve been attending school because I realised that, getting educated is something that can determine my wellbeing, in the future. After completing my studies I will be able to get a job and won’t need to knock at people’s doors begging (S-21)

These findings do support our conceptualisation of conceptions of schooling as students’ perceptions about the ultimate end of attending formal education.

With respect to the conceptions related with the goals of studying an academic subject (question number 2), four categories of description were identified. The related goals were those of (i) accumulating information, (ii) understanding the content, (iii) performing (in assignments), and (v) boosting one’s self. In re-interpreting the achievement goal as a specific application of knowledge, we may establish that the first three categories of description (accumulating information, understanding the content, and performing/applying), form a logical structure that resembles the ascending sequence within the lower level cognitive objectives in Bloom’s (1973) classical Taxonomy of Education Objectives, namely “knowledge”, “comprehension”, and “application”, respectively. This suggests that our informants portrayed a classical variation in their approaches to studying. Category four
(boosting one’s knowledge), which is not a cognitive goal, falls outside the logic underlying the other categories.

Regarding the third sub-question (study activities/behaviours), the identified two categories (active approach and passive approach) are equivalent to the earlier categorisation proposed by Marton and Säljö (1976a) with respect to the ways in which students may approach a written text with learning purposes in mind. It has to be noted that, in our interview, unless needed to clarify the question, students were not referred to a particular academic subject or to a specific source of learning. Even though, they reported activities limited to “taking and reading notes”, and, at most, “discussing and solving exercises”. They made no references to activities such as “preparing”, “experimenting”. Such a limited variation in range of learning activities/behaviours seems to reflect the actual limitations found in the learning environment. Highschools in Mozambique are characterised by not having facilities such as laboratories, experimental fields or workshops. Operating under those circumstances, the teaching, and so the learning, of academic subjects such as Physics, Chemistry or Biology resemble that of subjects like Language or History.

Our findings suggest categories of description that are similar in their object for the fourth and the fifth aspects (conditions regarded as the most important for learning, and sources of regulation, respectively). Teachers, self-commitment, material conditions, and group-work are the categories for the fourth aspect, while for the fifth are: teacher’s regulation, shared regulation (with peers), and self-regulation, being noticeable, from students’ accounts, the dominant role attached to the teacher, both as a ‘sine qua non’ condition for learning, and as a chief source of regulation in learning. Here are two illustrative examples of the foregoing:

- “Oh … the teachers are in the 1st place!” (S-3)
- “When I fail to understand something in class, I really chase the teacher in order to get more explanation on the subject” (S-7)

6.2.4.2 Conclusion
In the light of the above reported outcomes we conclude that the perceptions of learning of our target group embrace both the perceptions about schooling and conceptions of learning. The portrayed perceptions about schooling (‘getting educated’) appear to be yielded by both
personal and social motives. Nevertheless, material personal motives (e.g. related to one’s welfare) emerge quite strongly, overshadowing those related to the pursuit for intellectual development and the social related ones. As for the conceptions of learning, the conclusion to be drawn is that our target group reveals to conceive of learning from diverse perspectives, including accumulating information, understanding, and performing. Passive learning strategies seem to be more privileged than the active ones and teachers appears to be privileged as both the most important condition for learning and the main source of regulation in learning.

6.3 Study “D”- A questionnaire Study

As mentioned at the outset of the chapter, the overall study on the perceptions of education consisted of two sub-studies: A qualitative (interpretative) study, aiming at describing high-school students’ perceptions of the construct, and a quantitative (questionnaire-based) one, to examine the degree to which the several aspects previously found to comprise the perceptions of education of the target group interrelate into the hypothesised structure. The method, results and conclusions on the later are presented in the forthcoming sections, forming-up the second sub-study on the perceptions of education.

6.3.1 Method

6.3.1.1 Participants

Participants in this study consisted of the same sample of students (N=755) that participated in Study B on epistemological beliefs (Refer to Table 5.21). The sample distribution and other characteristics are here recalled: 449 (59.5%) male and 306 (40.5%) female, with ages ranging from 15 to 26 years old (Mean = 19.7, SD = 1.8). They were from the Escola Secundária Emília Daísse, in Inhambane (hereafter School 3), and from the Escola Secundária de Laulane, in Maputo (hereafter also treated as School 4). The social and cultural environment of the two schools has been described in Chapter 5.

Though half (51%) of the sample consisted of students majoring in Science, the percentage of female students enrolled in science options was 40.5%.
6.3.1.2 Instrument and procedures

This was a multiple choice, Likert-type questionnaire, comprising 50 items that had been developed based on the results of the interview study. Specifically, the items were developed around the five aspects related to conceptions of schooling and conceptions of learning, namely (i) the **motivation** (purpose) for getting educated, (ii) the **goals** in studying an academic subject, (iii) the **requirements** (aspects/conditions) regarded as the most important for the learning process to occur, (iv) the **activities** (behaviours) regarded as appropriate for learning, and (v) the **sources of regulation** in the learning perceived as the most efficient. Table 6.2 provides a sample of items and their respective sub-scales (categories). The whole questionnaire (the original, in Portuguese, and the respective English version) can be seen in the Appendices (Appendix 7 and Appendix 8).

### Table 6.2. Sample of questionnaire items

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>Sample items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motivation</strong></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>- Good job and good salary depend upon one’s education</td>
</tr>
<tr>
<td>Social</td>
<td>- Only qualified young people can develop this country</td>
</tr>
<tr>
<td><strong>Goals</strong></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>- Collecting lots of information from different subject matters is al that counts for a student</td>
</tr>
<tr>
<td>Understanding</td>
<td>- Getting good marks at Math without understanding it is to postpone a problem</td>
</tr>
<tr>
<td><strong>Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>- It is impossible to learn by ourselves without a teacher’s orientation</td>
</tr>
<tr>
<td>Material</td>
<td>- Students living conditions determine their school achievement</td>
</tr>
<tr>
<td>Peers</td>
<td>- Without the help of our colleagues, we hardly can learn new things</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Answering to questions and solving correctly the exercises are ways of learning</td>
</tr>
<tr>
<td></td>
<td>- Notes taken during the class are the better sources for learning</td>
</tr>
<tr>
<td><strong>Regulation</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- I only manage to learn those subjects whose teachers explain things very well.</td>
</tr>
<tr>
<td></td>
<td>- Questions and explanations from my colleagues help me understanding the subject better</td>
</tr>
<tr>
<td></td>
<td>- I like solving Math problems alone, even the most difficult ones</td>
</tr>
</tbody>
</table>

The questionnaire had been piloted in its earlier version. A total sample of about 120 students from the target group of the study had volunteered to participate in the piloting of the questionnaire. About 70 (2 classes) were from the *Josina Machel* high-school, and around 50 (2 classes) from a
vocational (commercial) medium-level school, also in Maputo. All students involved in the piloting of the questionnaire would not take part in the main study. Those volunteers were asked not only to answer to the questionnaire, but also to highlight those questions they would find difficult to understand, as well as to make general comments on the questionnaire. To allow them time to do so, they were permitted to take the questionnaires home and return them within a few days. The completed questionnaires would be entrusted to the Chefe da Turma, from whom they would be collected by the researcher. The rate of return of the pilot-questionnaire was extremely low, as only about 30 students, in total, returned back the questionnaires. Meanwhile, half of the returned questionnaires were incomplete and comments on the level of understanding of the items were scarce. Yet, those comments were considered in the rewording of some items. In the final version of the questionnaire, motivation and requirement sub-scales consisted of 12 items each, while activities and goals sub-scales had 9 items each. Eight items concerned the sub-scale regulation.

The questionnaire was designed and administered in Portuguese to entire classes, jointly with the questionnaire on epistemological beliefs (Study B). In practical terms, the 50 items were added to the epistemological beliefs questionnaire items, as if they formed the same questionnaire. Two main reasons were behind such a procedure: Firstly, to avoid overwhelming our respondents, already unused to answering to questionnaires with ‘many’ questions. Secondly, to ensure that, despite the anonymity of the questionnaires, all data (demographic information and answers to the two questionnaires) related to each informant would remain bound together.

The procedures for answering to the questionnaire were similar to those of the epistemological beliefs items. Students were asked to answer by circling the number corresponding to their answer-option on a five-point Likert-scale (1=strongly disagree, 2=disagree, 3=have no clear opinion, 4=agree, 5=strongly agree).

6.3.2 Analyses and results

The main aim of this sub-study was to confirm the factor structure of the perceptions of education as suggested by the respondents’ answers to the

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68 - A student representative of the class.
interview. Therefore, owing to its property in that regard, factor analysis was the statistical technique used. Meanwhile, prior to factor analysis, two steps were undertaken. The first one consisted of replacing missing values by their respective mean. Secondly, the psychometric properties of the instrument were examined. Cronbach Alpha reliability tests were performed on the items of the five subcategories to assess their reliability. The outcomes indicated low to absolutely negligible levels of reliability, as the coefficients of reliability ranged from .52 to -.01. Subcategories **behaviour** and **regulation** were those presenting the worst reliability coefficients (-.01 and .16, respectively). It became clear that, in general, the questionnaire was highly unreliable. Thus, items belonging to the two above mentioned sub-scales were altogether dropped. Even though, the decision to carry-out further analysis was taken cautiously and under the recognition that any outcomes would taken just as indicative and exploratory, since the scale would remain with questionable reliability ($\alpha = .67$ in total, with the following reliability coefficients for the constituent sub-scales: Motivation, $\alpha = .53$, Goals, $\alpha = .37$, and Requirements, $\alpha = .27$). Additional item analysis was performed on these sub-scales’ items. Those items with negative item-total correlation and those with item-total correlation lower than .10 were dropped from analysis. The final scale consisted of 26 items, 10 of the subscale **Motivation**, while the subscales **Goal** (or **Purpose**) and **Requirements** contributed 8 items each.

Factor structure
Factor analysis (PCA, orthogonal rotation) was then performed on the remaining 27 items. The factor loading criterion of .30 was applied, and the inspection at the scree plot (Figure 6.1) suggested a 2-factor solution.

![Figure 6.1. Scree plot (Study D)](image)
15 items loaded into the two factors, explaining 17.45% of the total variance. The component matrix is presented in Table 6.3. Tables 6.4 and 6.5 present the actual items that loaded into the two factors, and are followed by the factor labelling.

**Table 6.3. The loading pattern matrix (Study D)**

<table>
<thead>
<tr>
<th>Item Nr</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>69</td>
<td>.659</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>.598</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>.560</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>.541</td>
<td>-.200</td>
</tr>
<tr>
<td>92</td>
<td>.475</td>
<td>.117</td>
</tr>
<tr>
<td>49</td>
<td>.455</td>
<td>.195</td>
</tr>
<tr>
<td>53</td>
<td>.358</td>
<td>.328</td>
</tr>
<tr>
<td>87</td>
<td>.337</td>
<td>.230</td>
</tr>
<tr>
<td>59</td>
<td>.286</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>.277</td>
<td>.236</td>
</tr>
<tr>
<td>51</td>
<td>.241</td>
<td>.205</td>
</tr>
<tr>
<td>82</td>
<td>.223</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>.216</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>.215</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>.190</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>.162</td>
<td>.158</td>
</tr>
<tr>
<td>89</td>
<td>.107</td>
<td>.527</td>
</tr>
<tr>
<td>88</td>
<td>.164</td>
<td>.511</td>
</tr>
<tr>
<td>96</td>
<td>.475</td>
<td>.468</td>
</tr>
<tr>
<td>58</td>
<td>.162</td>
<td>.408</td>
</tr>
<tr>
<td>91</td>
<td>-.137</td>
<td>.396</td>
</tr>
<tr>
<td>76</td>
<td></td>
<td>.304</td>
</tr>
<tr>
<td>72</td>
<td>.157</td>
<td>.290</td>
</tr>
<tr>
<td>84</td>
<td>.119</td>
<td>.268</td>
</tr>
<tr>
<td>81</td>
<td>.113</td>
<td>.263</td>
</tr>
<tr>
<td>80</td>
<td></td>
<td>.208</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
### Table 6.4. Item loading in Factor 1 (Study D)

<table>
<thead>
<tr>
<th>Item Nr.</th>
<th>Sub-category</th>
<th>Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>MOT</td>
<td>If I do not attend school today, I won’t earn lots of money in the future</td>
<td>.65</td>
</tr>
<tr>
<td>56</td>
<td>MOT</td>
<td>A real person is the one with good school background</td>
<td>.59</td>
</tr>
<tr>
<td>56</td>
<td>MOT</td>
<td>To be someone in the society, you need to be well educated</td>
<td>.56</td>
</tr>
<tr>
<td>97</td>
<td>MOT</td>
<td>“Who does not attend school is a marginal person”</td>
<td>.54</td>
</tr>
<tr>
<td>92</td>
<td>MOT</td>
<td>God job and good salary depend upon one’s education</td>
<td>.47</td>
</tr>
<tr>
<td>49</td>
<td>MOT</td>
<td>To be democratic and peaceful, a society needs people with good levels of education</td>
<td>.45</td>
</tr>
<tr>
<td>53</td>
<td>MOT</td>
<td>Only qualified young people can develop this country</td>
<td>.35</td>
</tr>
<tr>
<td>87</td>
<td>GOAL</td>
<td>I am concerned in studying and learning well Portuguese in order to avoid expressing myself as an ordinary person</td>
<td>.33</td>
</tr>
</tbody>
</table>

**Key:** MOT = Motivation, GOAL = Goal

Considering the items loading in this factor, it was labelled *Motivational perceptions of Education*, interpreted as expressing a perception that attending school has a long term purpose, driven by personal and social motives.

### Table 6.5. Item loading in Factor 2 (Study D)

<table>
<thead>
<tr>
<th>Item Nr.</th>
<th>Sub-category</th>
<th>Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>89</td>
<td>GOAL</td>
<td>We hardly can be proud of ourselves and feel different from ordinary people without a good general knowledge background</td>
<td>.52</td>
</tr>
<tr>
<td>88</td>
<td>MOT</td>
<td>It is through education that I get more self-esteem and develop my self-confidence</td>
<td>.51</td>
</tr>
<tr>
<td>96</td>
<td>MOT</td>
<td>Lack of opportunity to attend school has hampered progress in Africa, throughout generations</td>
<td>.47</td>
</tr>
<tr>
<td>58</td>
<td>GOAL</td>
<td>In Biology I like understanding the “why” of things, not only for assignment purposes</td>
<td>.46</td>
</tr>
<tr>
<td>91</td>
<td>GOAL</td>
<td>Collecting lots of information from different subject matters is all that matters for a student</td>
<td>.40</td>
</tr>
<tr>
<td>76</td>
<td>REQ</td>
<td>Even those students without motivation end-up learning at school.</td>
<td>.39</td>
</tr>
<tr>
<td>72</td>
<td>REQ</td>
<td>Without commitment, one can’t learn anything in life.</td>
<td>.32</td>
</tr>
</tbody>
</table>

**Key:** MOT = Motivation, GOAL = Goal, REQ = Requirement
The perception of education suggested by this factor is rather mixed, involving mostly goals and motives. Thus, it was labelled *Goal and motivational perceptions of education.*

Two main conclusions could be drawn from the foregoing analysis. Firstly, that due to the problematic reliability of the instrument, the hypothesised overall structure of the construct of *perceptions of education* could not be tested, as the component ‘conceptions of learning’ (comprising behaviour, requirements and regulation in learning) could not be captured by the research instrument. Secondly, there is a tenuous indication that perceptions of education may indeed include motivational as well as goal-motivational oriented domains, as suggested by the extracted two factors. With reference to our working model of perceptions of education this can also be seen as indicating that only the ‘conceptions of schooling’ component of the perceptions of education could, somehow, be empirically validated.

Scales
For further analyses, the scales related to the two dimensions of the perceptions of education were constructed, following the standard procedure of adding the observed scores in each factor. The scales and their respective parameters are presented in Table 6.6.

<table>
<thead>
<tr>
<th>Scales</th>
<th>N</th>
<th>Items</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Alpha</th>
<th>Eigenvalues</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Motivational</td>
<td>755</td>
<td>8</td>
<td>3.55</td>
<td>.62</td>
<td>.64</td>
<td>3.1</td>
<td>9.76%</td>
</tr>
<tr>
<td>2.Goal &amp; Motivat.</td>
<td>755</td>
<td>7</td>
<td>3.83</td>
<td>.47</td>
<td>.45</td>
<td>1.6</td>
<td>7.69%</td>
</tr>
</tbody>
</table>

The relationship between perception pattern and independent variables
Except for the variable religion, the relationships between the two patterns of perceptions of education and the demographic variables were explored through Pearson’s correlation coefficient. As shown in the Appendix 9, only three independent variables (school, marks in Mathematics and mother’s level of education) were found correlating significantly with the patterns of perceptions of education (school correlating with *motivational perceptions*, and *marks in Math* and mother’s *level of education* correlating with *goal-motivational perceptions*). Nevertheless, the coefficients of correlation were very low, and none of the independent variables could be found with predictive power to the
perceptions of education correlating with. As for the variable religion of the student, ANOVA tests showed no significant effect of religion on any of the two the patterns of perceptions of education.

The relationship between patterns of perception of education and patterns of epistemological beliefs
This analysis was meant to answer the second part of the research question 1 of the whole study\textsuperscript{69}. The first approach consisted in examining the observed correlation coefficients between the respective dimensions. Further analysis implied examining the overall structure of relationships (including the independent variables) through a structural equation model. That analysis is comprehensively presented in Chapter 7.

Table 6.7 is the correlation matrix in which the correlation coefficients amongst the ‘belief patterns’ and the ‘perception patterns’ are presented.

Table 6.7. Correlations between dimensions of epistemological beliefs and dimensions of perceptions of schooling (Study D)

<table>
<thead>
<tr>
<th></th>
<th>SLAK</th>
<th>CKSL</th>
<th>QL</th>
<th>CAK</th>
<th>MP</th>
<th>GMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLAK</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>CKSL</td>
<td>.043</td>
<td>.</td>
<td>.332*</td>
<td>.164*</td>
<td>.235*</td>
<td>.098*</td>
</tr>
<tr>
<td>QL</td>
<td>.</td>
<td>.020</td>
<td>.</td>
<td>.179*</td>
<td>.210*</td>
<td>.247*</td>
</tr>
<tr>
<td>CAK</td>
<td>.164*</td>
<td>.179*</td>
<td>.128*</td>
<td>.</td>
<td>.125*</td>
<td>.057</td>
</tr>
<tr>
<td>MP</td>
<td>.235*</td>
<td>.110*</td>
<td>.210*</td>
<td>.125*</td>
<td>.273*</td>
<td></td>
</tr>
<tr>
<td>GMP</td>
<td>.098*</td>
<td>.247*</td>
<td>.057</td>
<td>.128*</td>
<td>.</td>
<td></td>
</tr>
</tbody>
</table>

**.p\leq0.01 (2-tailed).

Key: SLAK= Simple Learning and Authoritative Knowledge, CKSL=Certain Knowledge and Simple Learning, QL=Quick Learning, CAK=Certain and Authoritative Knowledge, MP=Motivational Perceptions, GMP=Goal and Motivational Perceptions.

All belief patterns seem to correlate positively and significantly with the motivational perceptions of education. Yet, the coefficients of correlation are modest, being the highest and the ones with some substantial real significance those observed between motivational perceptions and the belief in simple learning and authoritative knowledge (r=.24), and with the belief in quick learning (r=.21). Goal-motivational perceptions of education

\textsuperscript{69} - This research question was stated as: What kind (patterns) of epistemological beliefs and perceptions of education are to be found amongst Mozambican high-school students, and how far do these constructs interplay?
correlate significantly with all belief patterns, with the exception of the belief in quick learning. Nevertheless, the substantial real significance is found only in relation to the belief in certain knowledge and simple learning \((r=.24)\). It is also worthy to mention that the two patterns of perceptions inter-correlate \((r=.27)\).

6.3.3 Summary

Perceptions of education is not a well established construct. It was conceived and tried-out in the framework of the present study, to capture the idea that conceptions of learning should be seen just as part of a wider view, embracing also people’s perceptions about schooling. Through interviews, relevant categories of description could be formulated but failed to be confirmed in a questionnaire-based study, apparently because of a lack of reliability of the scale used. Nevertheless, the findings gathered seem to have supported the idea that education is mostly seen as schooling. Moreover, the outcomes point to self-centred and foreseeable material benefits as the main motives taking one to be schooled, overshadowing those motives attached to intellectual profits.