Representations of study and students' academic motivation

Fabio Alivernini\textsuperscript{a*}, Elisa Cavicchiolo\textsuperscript{a}, Laura Palmerio\textsuperscript{a}, Laura Girelli\textsuperscript{b}

\textsuperscript{a}INVALSI (National Institute for the Educational Evaluation of Instruction and Training, Via Borromini 5 - 00044, Frascati (RM), Italy
\textsuperscript{b}Sapienza, University of Rome, Piazzale Aldo Moro 5 - 00185, Rome, Italy

Abstract

The motivation and attitudes of students towards studying influence the way they learn, their performance at school and the objectives they set themselves. The study, based on a sample of 200 Italian eighth graders aims to explore students’ metaphors of study. An integrated approach was performed analysing the data with an inductive, data-based, qualitative approach as well as a deductive, theory-based, quantitative approach. The results identified some key attributes of metaphors based on their semantic and figurative aspects. The most frequent categories that emerged are closely associated with classic constructs of the literature on academic motivation.

Keywords: value-added models, cognitive activation, text mining, reflective practices, social learning, process-oriented teaching.

1. Introduction

Different kinds of motivation and attitudes towards study are generally seen as factors that have a decisive impact on the way students learn, their performance at school and the type of objectives they set themselves (Ormond, 2003). The various different techniques for the assessment of motivation can be differentiated (Alivernini, 2012a) on the basis of the data collection strategies employed (e.g. self-report measures, interviews), the method adopted (quantitative, qualitative, mixed methods), and the conceptualization of academic motivation applied. Although there is a wide range of techniques and possibilities for assessing students’ motivations towards study, those that are based on mixed methods are particular interesting (Alivernini, 2012b; Alivernini, Lucidi, & Manganelli, 2008) as they allow us to discover new features of students’ motivations and attitudes by means of a data-driven approach and they use one or more theoretical perspectives for analyzing the data collected. Applying
this methodology to the analysis of students’ representations of study can help us to understand the various cognitive, emotional and relational elements involved in the complex processes of learning and being successful at school (Pintrich, 2003).

1.1. Metaphor as a research tool

The linguistic device of the metaphor was used to examine students’ representations of study. The metaphor is a mental function by means of which a particular phenomenon or experience is represented as an analogy in the terms of another. It is useful for understanding complex concepts and unfamiliar situations (Vosniadou & Ortony, 1989). On the basis of the idea that metaphors are linguistic tools used in literature as well as in everyday life, Lakoff and Johnson (1980) developed a cognitive approach towards interpreting metaphors as an inevitable aspect of human thought (Koveceses, 2007), which allow us to anticipate, simplify and share a range of meanings, ideas and experiences, as well as to give our perceptions and experiences a specific form and structure. Thanks to the metaphor people can broaden the range of their conceptual and linguistic systems, categorizing and giving meaning to their shared experiences. Metaphors are culturally and socially mediated and they can be used as an important textual instrument for understanding the way individuals represent the world and their immediate environment through a synthesis of direct experience, learning and opinions.

1.2. Theories regarding students’ academic motivation

From a theoretical point of view, many studies on academic motivation (Alivernini, 2012) refer to self-determination theory (SDT). The SDT (Deci & Ryan, 2002) claims that there are various different styles of regulation as regards academic motivation in students, which reflect differences in their relative levels of autonomy. The SDT establishes a distinction between intrinsic motivation and extrinsic motivation, in a similar way to most other motivational theories (Harter, 1978). Intrinsic motivation consists of doing something because it is interesting, pleasant and satisfying in itself (Ryan & Deci, 2000). When one is intrinsically motivated one undertakes an activity because one knows that one will enjoy it. Instead, people who are extrinsic motivated do something because it is useful and instrumental for attaining another objective, with results that do not directly pertain to the activity itself (Ryan & Deci, 2000).

2. Objectives

The specific objectives of this study are:

- To identify the main features of the way students perceive learning and studying, by means of an inductive, data-based, qualitative approach
- To analyze the resulting pattern of emerging attributes by means of a deductive, theory-based approach (Charmaz, 2006; Strauss, 1987; Strauss & Corbin, 1997)

3. Method

3.1. Data and instruments

The data used for this preliminary study is based on a random sample (N=200) from within the broader sample of students in the eighth grade of school (with a mean age of 13.5 years) who participated in the national option of the IEA-ICCS 2009 international survey1.

The key question analyzed was an open question, which asked respondents to formulate a phrase starting with the words: "Studying is like...".

---

1 The study is IEA ICCS-2009 (International Civic and Citizenship Education Study), a comparative survey promoted by IEA. www.iea.nl.
3.2. Analysis

The basic code unit was each single answer of the students. In order to individuate a large number of categories that might correspond to areas of content within the texts we adopted a procedure of analysis based on a number of steps (Schilling, 2006).

4. Results and discussion

In Table 1, the inductively identified categories are listed and described, together with some typical examples of the answers provided, and the percentages of students for whom at least one answer was codified in that specific category.

Table 1. The most frequent qualities assigned by students to the study domain with their description and typical examples.

<table>
<thead>
<tr>
<th>Name of category</th>
<th>Percentage</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>25.2</td>
<td>To exert oneself in order to do, make, or perform something. To be employed</td>
<td>Working to have a better future Working without a salary Working in a prison Working under the sun without stopping Working. It's tiring but it makes you happy afterwards Working. It's useful, but tiring</td>
</tr>
<tr>
<td>Playing</td>
<td>20.3</td>
<td>To engage in sport, a game or a diversion. To amuse oneself with a fun or playful activity</td>
<td>Playing football Playing videogames Playing with an aeroplane Playing chess Playing and having fun</td>
</tr>
<tr>
<td>Building a future</td>
<td>15.4</td>
<td>To prepare for unknown events and situations in a time that has yet to come or is coming. To improve one’s chances of improvement or advancement in later life</td>
<td>Building a better future Having your future in your hands Ensuring a better future for yourself A new door to the future Looking at your reflection in the mirror of the future</td>
</tr>
<tr>
<td>Finding things out</td>
<td>11.9</td>
<td>To determine the existence, presence or factor. To learn about or encounter for the first time. To find after study or search</td>
<td>Discovering new real situations Discovering new worlds Discovering your intelligence Being curious to discover a treasure Discovering something new</td>
</tr>
</tbody>
</table>

The results give us a varied and detailed picture of the contents regarding students’ representations of the domain of "study". On the basis of the theoretical definitions provided by the SDT it is possible to associate the contents identified by means of the inductive analysis with the theoretical categories provided by the SDT (Table 2). In this context "working" is an activity that typically involves an extrinsic motivation (a salary). Similarly "building a future" implies doing something that is distinct from studying for its own sake, and so it is extrinsic, as it involves the result of the activity located in a later and perhaps quite distant time. Instead "playing" and "finding things out" are activities related to intrinsic motivation as they appear to be attractive and pleasant in themselves, without the need to seek any other result apart from the activity itself (Deci & Ryan, 1985).

Table 2. The most frequent qualities assigned by students to the study domain.

<table>
<thead>
<tr>
<th>Name of category</th>
<th>Percentage</th>
<th>Theoretical Category of the SDT (extrinsic or intrinsic motivation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>25.2</td>
<td>Extrinsic</td>
</tr>
</tbody>
</table>
On the whole the results show that, within the group of students considered, they tended to associate studying with more extrinsic typologies of motivation (45.6%), as opposed to the more intrinsic typologies of motivation (32.2%).

5. Conclusions

The main objectives of this preliminary study were to identify the qualities that students associate with their idea of studying. This was done by means of an inductive, data-based, qualitative approach, which also involves the analysis of the resulting pattern of qualities by means of a deductive theory-based approach (Charmaz, 2006; Strauss, 1987; Strauss & Corbin, 1997; ibid). The results provide us with some significant initial evidence to support the validity of a mixed research methodology in order to analyze the “open content” of the metaphor (i.e. contents of a figurative and symbolic type). We feel that the findings based on this approach are valid and sufficiently robust to stand up to a comparison with the literature on the subject.

References