Developing competences in Higher Education: a case in teacher education

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Abstract
Since the beginning of the 21st century, the promotion of an education that leads to the development of competences (European Commission, 2007; Perrenoud, 1999) has been a main concern of Portuguese education policies (Ministério da Educação, 2001; Reis, 2009; Sá, Cardoso, Alarcão, 2008).

Higher Education has also embraced this concern and the implementation of the Bologna propositions set forth the creation of new courses focused on the development of competences. These are supposed to promote lifelong learning and make it possible for graduates to easily adapt to an ever changing society, namely as far as job opportunities are concerned.

Training for jobs in the education area is especially demanding. The Department of Education of the University of Aveiro (Portugal) has been working along these lines for several years, following the main trends of the Portuguese education policies, aligned with the Bologna process. So new courses have been created and implemented since 2007.

One of them is a first cycle degree centred in the training of undergraduates who can look for jobs in the field of basic education.

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This paper describes a case study conducted within this course relating the issues of education in the mother tongue to the training students are concurrently receiving in educational institutions.

The underlying principles of the study address the need i) to approach education in the mother tongue in a transversal way, taking into account its importance for success at school and for socio-professional integration (Sá, 2009; Sá, Martins, 2008) and ii) to develop competences that allow the students to adapt to a greater variety of educational contexts.

Two research questions supported the study: i) Is it possible to design teaching strategies in Higher Education leading to the development of competences that allow the students to adapt to a greater variety of educational contexts? ii) Can these strategies promote an awareness of the need to approach education in the mother tongue in a transversal way, taking into account its importance for success at school and for socio-professional integration?

The study was conducted with a group of 75 students in the final year of their graduation in Basic Education who were attending Language Teaching Methodologies classes during the 1st Semester. It involved (i) the design and implementation of a teaching programme centred on the students’ activities and (ii) a system of continuous assessment, including team and individual work, oral and written presentations, and critical thinking focused tasks.

Some preliminary results can be presented concerning i) the performance of the students through the analysis of their grades and ii) their conceptions, through the analysis of the individual essays they wrote, containing their critical views about the work they developed.

Although these results are not conclusive, they stress the need to introduce changes in the course programme and in the assessment methods it proposes.

1. Introduction
Since the beginning of the 21st century, the promotion of an education that leads to the development of competences has been a major concern of international policy. International organizations – and specially the ones related to the European Union – have been producing documents giving special attention to an education for all and specifically centred in the
development of competences adapted to life in an ever changing modern society (Sá, Cardoso, Alarcão, 2008).

One of these documents (European Commission, 2007) proposes eight key competences dealing with several domains in citizenship:
- some of them are related to traditional scientific areas (Communication in the mother tongue and foreign languages, Mathematical literacy and basic competences in science and technology and ICT skills);
- others are less widely referred to, but equally important (Learning to learn, Entrepreneurship, Civic competences and Cultural awareness).

The development of such competences through a democratic model of education is also a main concern in Portuguese policy. The National Curriculum for Basic Education (Ministério da Educação, 2001) defines the competences that should be developed in compulsory education, providing the basis for other important documents that set forth the main features of education policy and practices.

These essential competences concern: i) knowledge (scientific, technological and cultural), ii) language (mother tongue and foreign languages), iii) methods and techniques focused on problem solving (looking for information and organizing it, selecting strategies adapted to a specific goal, taking decisions, being autonomous and capable of involving in team work) and iv) the ability to perceive life in an ecological way.

2. Recent changes in the Portuguese education system

But education needs more than laws to work and other efforts are being developed in order to implement such an education model.

The National Curriculum for Basic Education gave origin to other documents more specifically related to the educational action (for instance, Reis, 2009) taking in account studies promoted by specialists in education, such as Philippe Perrenoud.

This author (Perrenoud, 1999) proposed essential competences teachers should develop in their pupils, promoting namely: i) the ability to cope with heterogeneity, ii) team work and iii) active citizenship.

Recent analysis of the educational situation in Portugal revealed some important problems (cf. Roldão, 2008): i) the need to pay attention to the pupil’s culture and experiences, ii) the importance of getting them used to evaluate and argue based on evidence and iii) the importance of dealing with heterogeneous contexts at school.
Such results point out the need for adequate teacher training, which in Portugal is the responsibility of both universities and polytechnic institutes.

3. Higher Education and the Bologna Process

Higher Education has also embraced this concern and the implementation of the Bologna propositions set forth the creation of new courses focused on the development of competences, independently from scientific area. These are supposed to promote lifelong learning and make it possible for graduates to easily adapt to an ever changing society, namely as far as job opportunities are concerned. Therefore, nowadays Higher Education requires a new education model, centred in the students and focused on the development of competences which are essential for individuals to live in an ever changing society.

4. The Bologna Process in the teacher training degrees in the University of Aveiro

As education professionals are trained in Higher Education institutions, these play an important role in the preparation for the changes required at every educational level. As a matter of fact, training for jobs in the educational area is especially demanding. Within the implementation of the Bologna Process in the University of Aveiro (Portugal), the Department of Education has been working along these lines for several years, following the main trends of Portuguese education policies. So new courses have been created and implemented since 2007. These were designed to develop in future and in-service education professionals the competences that would meet the needs of contemporary society.

5. A case study in this context

One of these courses is a first cycle degree centred in the training of undergraduates who can look for jobs in the field of basic education. This paper describes a case study conducted within this course relating the issues of education in languages – and mainly in the mother tongue – to the training students are concurrently receiving in educational institutions.
5.1. Research questions

The underlying principles of the study address the need i) to approach education in the mother tongue in a transversal way, taking into account its importance for success at school and socio-professional integration (Sá, 2009; Sá, Martins, 2008) and ii) to develop competences that allow the students to adapt to a greater variety of educational contexts.

The teaching and learning of languages – and specially the mother tongue – involves all the teachers in the schools, not only the ones who were specifically formed to perform this job. As a matter of fact, learning languages develops communicative, cognitive and affective competences which are essential for success as an individual and as a citizen and also at school. Correlatively, the teaching and learning of other subjects also contribute to the development of such competences, namely the ones especially important for the mastering of languages.

Two research questions supported the study: i) Is it possible to design teaching strategies in Higher Education leading to the development of competences that allow the students to adapt to a greater variety of educational contexts? ii) Can these strategies promote an awareness of the need to approach education in the mother tongue in a transversal way, taking into account its importance for success at school and for socio-professional integration?

This paper is focused on the development of competences by the students.

5.2. The case study

The study was conducted with a group of 75 students in the final year of their graduation in Basic Education who were attending Language Didactics classes during the 1st Semester.

The students were supposed to develop the following competences, among others:
- mobilizing concepts and processes relevant to promote language education;
- analyzing and evaluating strategies related to lifelong linguistic-communicative development in varied contexts;
- working autonomously and in team.

The essential concepts and processes were presented in theoretical moments included in the practical activities developed during the classes and elsewhere.

They correspond more or less to the contents mentioned in the programme of the course (cf. http://www.ua.pt/guiaonline/PageDisc.aspx?id=5129&b=1):
- teaching for the acquisition and development of competences;
- developing competences through a transversal approach of language teaching (namely the mother tongue, as there is another course in the degree structure concerning the teaching of foreign languages – Early Foreign Language Teaching);
- socio-cognitive processes underlying the acquisition and development of competences in reading comprehension and written expression;
- planning activities promoting a transversal approach of language teaching leading to the acquisition and development of competences.

The teaching of this course and the case study attached to it involved:

(i) the design and implementation of a teaching programme centred on the students’ activities,

- whose core consisted of the preparation of a portfolio including team and individual work, oral and written presentations, and critical thinking focused tasks,
- based on the selection of a document, related to the planning of activities in a real context, which the team should present and critically analyse with the help of a grid proposed by the teacher (cf. Document 1),
- requiring tutorial support provided by the teacher;

(ii) a system of continuous assessment, based on the portfolio presented by the students and concerning

- a collective oral presentation of the document each team selected for analysis (10%),
- a collective written report focused on the critical analysis of the selected document (50%),
- an individual oral presentation of one aspect of the critical analysis of that document (20%),
- an individual critical written essay on the whole course (20%).

The criteria used in the assessment are presented at the end of this text (cf. Documents 2, 3 and 4).

As the students are entitled to a second chance in assessment, they were invited to rewrite their collective report or individual essay, after a discussion of these items and according to written constructive comments produced by the teacher.

5.3. Analysis and discussion
Collected data concerned: i) the performance of the students, corresponding to the grades they obtained; ii) their conceptions, corresponding to statements included in their written essays.

These data were analyzed by means of basic statistics and content analysis.

5.3.1. On performance

In what concerns the performance of the students, two analyses were held.

The first one was carried out taking as data the grades the students obtained in the first assessment, in January 2010.

These grades were grouped in three categories, considering they might range between 0 and 20: i) under 10, including the students who did not get approval in the course; ii) 10-14, including those who got medium grades; iii) over 14, corresponding to the best grades.

The results are presented in Table 1:

Table 1 – Performance of the students in the first assessment

<table>
<thead>
<tr>
<th>Grades</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>4</td>
<td>5.8</td>
</tr>
<tr>
<td>10-14</td>
<td>53</td>
<td>76.8</td>
</tr>
<tr>
<td>Over 14</td>
<td>12</td>
<td>17.4</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>100</td>
</tr>
</tbody>
</table>

The table reveals that only a few students did not get approval (but they all had 9 out of 20), and that only a small number of students got very good grades (15 and 16).

This is a standard situation where the majority of the students got medium grades (ranging from 10 to 14).

The second analysis was based on data corresponding to the grades the students obtained in the second assessment, in February 2010.

Table 2 presents the results of the second assessment:

Table 2 – Performance of the students in the second assessment

<table>
<thead>
<tr>
<th>Grades</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>4</td>
<td>13.3</td>
</tr>
<tr>
<td>10-14</td>
<td>20</td>
<td>66.7</td>
</tr>
<tr>
<td>Over 14</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>
Once again, this is a standard situation, since most of the students still got medium grades (ranging from 10 to 14).

The number of those who did not get approval is the same (and they are the same students too). The percentage changed, because only a part of the students applied for the second assessment.

The number of students in the best position increased. Unfortunately, the change is not as good as it could be, due to several factors:
- the students did not have much time between the first and the second assessment to improve their portfolio; according to the rules of the university, the first assessment must take place during January and the second by the beginning of February;
- some of them were not able to apprehend the bases of this system of assessment and just worked to improve their grades, so they did not care enough about the comments the teacher wrote on the first version of their portfolio.

In an attempt to better apprehend the changes from the first to the second assessment, a third analysis was carried out. It concerned only the grades placed between 10 and 14, which were divided into two groups: from 10-12 and 13-14.

Table 3 presents the results for the medium students in the first assessment:

<table>
<thead>
<tr>
<th>Grades</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-12</td>
<td>25</td>
<td>47.2</td>
</tr>
<tr>
<td>13-14</td>
<td>28</td>
<td>52.8</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4 presents the results for the medium students in the second assessment:

<table>
<thead>
<tr>
<th>Grades</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-12</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>13-14</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

Comparing the results in the two tables, one observes that there’s only a slight change between the two assessments.
5.3.2. On conceptions

In order to identify and describe the representations of the students, the individual written essays they produced were submitted to a content analysis, centred in information about what they had learned.

There were 67 individual essays, 9 of them with no reference to the topic of this analysis (13.43%). On the whole, the 58 students who wrote about what they had learned produced 161 statements.

Firstly, these statements were analysed according to three categories: Competences, Practices and Contents. They were distributed as shown in Table 5:

<table>
<thead>
<tr>
<th>Topics</th>
<th>Nº of references</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competences</td>
<td>26</td>
<td>12.3</td>
</tr>
<tr>
<td>Practices</td>
<td>107</td>
<td>50.5</td>
</tr>
<tr>
<td>Contents</td>
<td>79</td>
<td>37.2</td>
</tr>
<tr>
<td>Total</td>
<td>212</td>
<td>100</td>
</tr>
</tbody>
</table>

The majority of the students focused on practices and contents. Such results can be referred to a traditional conception of teacher training: it should give the teacher trainees enough knowledge and exercise in order to make them able to face every professional situation with no surprises.

One of them writes on her essay: “In my opinion, learning how to plan the activities in the classroom is essential, because these plans give us guidelines concerning what is important to teach and make the pupils learn” (S19).

Another writes: “This course (....) proposes objectives to accomplish. One of the most important for me is “to know in order to teach”. I want to act like a ‘sponge’, sucking all the knowledge in order to transmit it when my time comes to become a teacher myself. (....)” (S26)

Further analysis of the results was held, crossing among them our three main categories. The results are presented in Table 6:

<table>
<thead>
<tr>
<th>Topics</th>
<th>Nº of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competences</td>
<td>14</td>
<td>8.7</td>
</tr>
</tbody>
</table>
This table confirms the previous results: the students have rather traditional conceptions of teacher training and teaching in general. These conceptions turn around the idea that teacher training should be focused on practices (37.3%) and contents (24.2%) and the interaction of these two categories (22.4%). Nevertheless, they value practices above contents, the latter being at the service of the first. Apparently, they do not see the development of competences as an important basis for their professional training. They prefer to invest in exercising themselves in a certain number of situations (such as planning the activities they are supposed to do with their pupils and producing the right materials) and acquiring essential knowledge (such as ‘recipes’ to do a good job with their pupils) rather than developing competences that would equip them with skills essential for the adaptation to ever changing contexts. Nevertheless, 20 students mentioned competences among what they had learned. Content analysis of those statements led to the identification of the competences mentioned by these students. The results are presented in Table 7:

<table>
<thead>
<tr>
<th>Competences</th>
<th>Nº of references</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>8</td>
<td>9.6</td>
</tr>
<tr>
<td>Team work</td>
<td>17</td>
<td>20.6</td>
</tr>
<tr>
<td>Communication</td>
<td>16</td>
<td>19.2</td>
</tr>
<tr>
<td>Problem solving</td>
<td>17</td>
<td>20.6</td>
</tr>
<tr>
<td>Reflection</td>
<td>8</td>
<td>9.6</td>
</tr>
<tr>
<td>Critical analysis</td>
<td>8</td>
<td>9.6</td>
</tr>
<tr>
<td>Use of knowledge</td>
<td>9</td>
<td>10.8</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>100</td>
</tr>
</tbody>
</table>

These results are rather interesting, due to the nature of the competences that were mentioned by these students.
According to the course’s programme, they were supposed to develop the ability i) to mobilize concepts and processes relevant to promote language education, ii) to analyze and evaluate strategies related to lifelong linguistic-communicative development in varied contexts and iii) to work autonomously and in team.

They referred to all of these competences:
- the first one corresponds to the item “Use of knowledge” (covering 10.8% of the references);
- the second one to the items “Communication”, “Problem solving”, “Reflection” and “Critical analysis” (covering 59% of the references);
- the third one to the items “Autonomy” and “Team work” (covering 30.2% of the references).

These references come from students who were among the best in the class: 9 (45%) had good grades in the individual paper and also a good final grade, and 4 (20%) had poor grades in their individual papers, but good final grades. Two of them (10%) were already working in education contexts, while attending the classes.

Some statements were chosen to illustrate the way these students refer to the different competences:

i) mobilizing concepts and processes relevant to promote language education – “(…) mobilizing cultural, scientific and technological knowledge for the analysis and comprehension of situations made it possible for us to understand how to plan activities in a more conscious, critical and multidisciplinary way. (…)” (S40);

ii) analyzing and evaluating strategies related to lifelong linguistic-communicative development in varied contexts – “(…) we acquired and developed competences concerning a more critical and reflective way of analysing situations concerning the teaching and learning of the mother tongue (…)” (S39); “(…) we had to place ourselves in the position of the professional who did the plan we analysed in order to find the answers to our own questions. (…)” (S150);

iii) to work autonomously and in team – “(…) we acquired new ways of working autonomously and in team, which will be extremely important in our future professional career and even in personal life.” (S1).

6. Conclusions
Although these results are not conclusive, they stress the need to introduce changes in the programme of the course and in the assessment methods it proposes.

In what concerns the programme, more stress on competences is needed, so that the students do not focus only on practices and contents/knowledge. Perhaps, the reference to official documents concerning the professional profile of teachers and critical reflection about these documents would make them see competences as essential in their professional training.

As for the assessment, a change will be introduced next year: there will be an extra moment by the middle of the semester, allowing them to make a critical analysis of their performance and draw new directions, if necessary.

Above all, it is essential to spread the good news and make this kind of work a rule, instead of an exception. That entails a change in the teaching and assessment methods in Higher Education, but also some changes in the working conditions which are proposed to both teachers and the students.

5. References


