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European Mental Images and Professional Identity in the Initial Primary Teacher Education

Romiă IUCU \(^1\), Alexandru Constantin STRUNGĂ\(^2\)

Abstract

Teacher Education is seen by the European Commission as one priority of its educational strategies. Also, a great emphasis is currently put in European Union on building teachers’ European identity by developing a common framework of teacher competences. However, very few surveys analyzed the impact of these ideals (European teacher, European school) on teacher professional identity, especially by drawing a comparison with its national dimension. This paper illuminates this liaison by introducing a new concept – the European mental image. The survey used an adapted version of Osgood’s semantic differential in order to study the impact of European mental images on Romanian students (\(n=100\)) and teachers’ (\(n=100\)) professional identity. The main results suggested that there are relevant differences between students and teachers’ European mental images and these results could be used for the optimization of initial training of primary school teachers.

Keywords: European mental images, teacher training, initial teacher training, semantic differential

Introduction

First, European Union (EU), according to a document of the European Commission COM(2003) 58 final, is trying for a long time to construct a ‘knowledge society’ and a ‘lifelong learning society’ viewing in the same time its citizens as ‘knowledge workers’. Its institutions (European Commission, European

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Parliament, European Council, Council of Ministers and so on) are active instances of the ‘Europeanization processes’. In this ‘European melting pot’ there is necessary new representations and mental images to complement (and if it’s the case to eventually replace) the old ones who are most of the time embedded in the national ideologies (Bruno, 2006). EU’s future and its position in the world are dependent in this case of the European mental images development and consistency.

Second, the teacher training issue seems to be one of EU’s top priorities, being a component of all the major strategies constructed so far. This is a rather logical approach since education is the ‘engine’ by which EU, according to COM (2003) 58 final, aims to be one of the world’s top economic, cultural and scientific powers. Of course that in the field of education one of the most important stakeholders are the Universities called ‘innovation and knowledge engines’ by EU’s educational documents. Also, the Universities have a critical mission: to develop students’ professional identity with the means of the mental images offered by EU.

Third, one of the best ways to analyze these processes (European representations and mental images construction and the teachers’ professional identity development) is by using the theory of social representations (TSR) initiated by the French psycho-sociologist Serge Moscovici in 60s and continued by Abric, Doise, Flament, Jodelet, Palmonari, Gustavsson, Selander, Ratinaud, Lac, Neculau, Curelaru and others (Neculau, 1997). As a branch of TSR, the study of mental images that are formed in the European Higher Education Area (EHEA) has the advantage of using a very flexible and subtle concept (European mental image) in order to explain and understand the resistance and adherence processes concerning EU. The dynamics of these phenomena are critical in the field of education, which is the most concrete example of professional identity development and (European) mental images construction. The semantic differential has not been applied yet in the field of European teacher training or professional identity development, judging by the information we have up to present (Foster, 1995; Eisner, 2000; Abrahamson & Kimsey, 2002; Epler, 2009; Cirrin et al., 2010; Dagenhart, 2010; Dessof, 2010).

The European mental images are, in our opinion, components of the social representations (and images), being different of the latter in terms of structure and content, and could be defined as *matrices of intuitive symbols and concrete models that are in very close proximity with the affective processes*. European mental images are also closely related with the professional representations characterized by professionality and technicality because both of them can be seen as instances of professionalization (Piaser & Bataille, 2011).

Our main objective was to find out the subjects’ attitudes regarding the concepts: European teacher, Romanian teacher, European teacher training school,
Romanian teacher training school, European primary school teacher, Romanian primary school teacher, European primer, Romanian primer. The secondary objective to analyze if there are differences between the two sample groups, one being primary and preschool education students and the other one primary school teachers who are active in their field.

The hypothesis, derived from our objectives was that if we apply the semantic differential (SeD), we will observe significant differences between the two sample groups’ European mental images. These mental images have also an important role in influencing subjects’ professional identity. We understood ‘European mental images’ concept as subjects’ attitudes concerning the ‘European concepts’ (European teacher, European teacher training school, European primary school teacher, European primer) versus the ‘national (in our case, Romanian) concepts’ (Romanian teacher, Romanian teacher training school, Romanian primary school teacher, Romanian primer).

We want to mention as well that both the objectives and hypothesis are structurally derived from the nature of the instrument – the semantic differential. Given that the instrument aims to differentiate subjects’ attitudes, a consistent hypothesis could state that there are differences between the sample groups. We also had in mind that our research design is qualitative and exploratory and that our article focuses on the methodological study (the use of semantic differential in education, in order to understand the impact of mental images over the professional identity) and data analytic approaches, hence the empirical data are just examples and illustrations of this approach.

Methodology

The research sample

The sample consisted of students in primary and preschool education from the University of Craiova, Romania, Faculty of Theology, History and Education Sciences ($n=100$) and primary school teachers who participated to the 32th Congress of the Romanian Primary Education Teachers Association ($n=100$).

Procedure

The survey was carried out between August and September 2011 with the permission of University of Craiova’s rectorate. We included in this study students from the first, second and third year of their graduate training (primary and preschool specialization) using systematic random sampling. The semantic differential was applied during the seminar activities for the subject ‘Methodology of Educational Research’. The teachers were selected from the participants of the
32th Congress organized by AGIRo (Romanian Primary Education Teachers Association), held in Amara, Ialomița county, between 25-28.08.2011, using the systematic random sampling technique as well. The authors distributed the instruments personally face-to-face (50%) and online (50%). The response rate was approximately 80%, for both students and teachers.

**Instrument**

For the purpose of this study, we constructed a SeD scale with 8 concepts: European elementary school teacher, Romanian elementary school teacher, European primary teacher training school, Romanian primary teacher training school, European primary school teacher, Romanian primary school teacher, European primer and Romanian primer. We also used 10 pairs of bipolar pairs of adjectives for each concept, namely: sweet - bitter, good - bad, correct - incorrect, beautiful - ugly, active - passive, powerful - weak, coherent - incoherent, simple - complex, warm - cold, bright - dark. By combining the two dimensions (concepts and bipolar pairs of adjectives) we constructed 80 synthetic indicators presented in Table 1.

On a 7-point linear scale, the subject indicated their preference for each pair of adjectives, the lowest value being 1 and the highest value 7, while the central value indicated a neutral opinion. For each variable, higher values indicated negative emotions, attitudes and opinions while the lower values indicated positive emotions, attitudes and opinions. In Romania, by the information we have up to present, SeD has been used only in the field of market sociology by Septimiu Chelcea (Chelcea, 2007) and in Europe especially in psychiatry and medical psychology (Steinhausen, 1992; Lilja et al, 2004; Hellzén et al, 2005; Norbergh et al, 2006; Bernardini Zambrini et al, 2008).

A factor structure will later become known in the literature as the EPA Model (Evaluation, Power and Activity). One of the most important criticisms of experts such as the linguist Uriel Weinreich, to the study realised by Osgood and his colleagues was that bipolar adjectives were not measuring the meaning, but rather the emotional associations of words or their capacity to produce extra-linguistical emotional reactions. Osgood addressed this criticism in the paper entitled “Studies on the Generality of Affective Meaning Systems” which provides a reconceptualization of semantic differentiator as a measure of emotional associations rather than the semantic meaning (Heise, 2010).

For the construction of semantic differential (and especially for the selection of the words and adjectives), the experts recommend several strategies (Heise, 2010): (a) Proximate transfer strategy: In the case of German, the scales for concept testing were inferred from the surrounding communities: Belgium (Flemish), the Netherlands (Dutch), and Sweden (Swedish); (b) Pancultural core strategy: In the case of Hebrew, Scales for the concept testing were translated from the four
most frequent E, P, and A scales from the pan-cultural analysis; in this survey we have used this strategy, meticulously verified in diverse multicultural settings by Osgood and his collaborators; (c) Analogous analysis strategy: the third strategy could be used especially for adding new pairs of adjectives, which will be compared with another set of concepts, which are known to have extreme ratings pan-culturally on the three dimensions.

For the pan-cultural core strategy there can be used the following concepts, most frequently translated concepts for the three dimensions are the following (Osgood, May and Miron, 1975, Table 4-18 apud Heise, 2010): (a) Evaluation: good – bad, beautiful – ugly, pleasant – unpleasant, worthwhile/ valuable – worthless; (b) Potency: big – little, strong – weak, heavy – light, high/tall – short; (c) Activity: fast – slow, young – old, active – passive, noisy – quiet.

Table 1. Table with the synthetic indicators used in the survey

<table>
<thead>
<tr>
<th>Concept/Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE</td>
<td>IE 1</td>
<td>IE 2</td>
<td>IE 3</td>
<td>IE 4</td>
<td>IE 5</td>
<td>IE 6</td>
<td>IE 7</td>
<td>IE 8</td>
<td>IE 9</td>
<td>IE 10</td>
</tr>
<tr>
<td>IR</td>
<td>IR 1</td>
<td>IR 2</td>
<td>IR 3</td>
<td>IR 4</td>
<td>IR 5</td>
<td>IR 6</td>
<td>IR 7</td>
<td>IR 8</td>
<td>IR 9</td>
<td>IR 10</td>
</tr>
<tr>
<td>SEI</td>
<td>SEI 1</td>
<td>SEI 2</td>
<td>SEI 3</td>
<td>SEI 4</td>
<td>SEI 5</td>
<td>SEI 6</td>
<td>SEI 7</td>
<td>SEI 8</td>
<td>SEI 9</td>
<td>SEI 10</td>
</tr>
<tr>
<td>SRI</td>
<td>SRI 1</td>
<td>SRI 2</td>
<td>SRI 3</td>
<td>SRI 4</td>
<td>SRI 5</td>
<td>SRI 6</td>
<td>SRI 7</td>
<td>SRI 8</td>
<td>SRI 9</td>
<td>SRI 10</td>
</tr>
<tr>
<td>PEI</td>
<td>PEI 1</td>
<td>PEI 2</td>
<td>PEI 3</td>
<td>PEI 4</td>
<td>PEI 5</td>
<td>PEI 6</td>
<td>PEI 7</td>
<td>PEI 8</td>
<td>PEI 9</td>
<td>PEI 10</td>
</tr>
<tr>
<td>PRI</td>
<td>PRI 1</td>
<td>PRI 2</td>
<td>PRI 3</td>
<td>PRI 4</td>
<td>PRI 5</td>
<td>PRI 6</td>
<td>PRI 7</td>
<td>PRI 8</td>
<td>PRI 9</td>
<td>PRI 10</td>
</tr>
<tr>
<td>AE</td>
<td>AE 1</td>
<td>AE 2</td>
<td>AE 3</td>
<td>AE 4</td>
<td>AE 5</td>
<td>AE 6</td>
<td>AE 7</td>
<td>AE 8</td>
<td>AE 9</td>
<td>AE 10</td>
</tr>
<tr>
<td>AR</td>
<td>AR 1</td>
<td>AR 2</td>
<td>AR 3</td>
<td>AR 4</td>
<td>AR 5</td>
<td>AR 6</td>
<td>AR 7</td>
<td>AR 8</td>
<td>AR 9</td>
<td>AR 10</td>
</tr>
</tbody>
</table>

Statistical analysis

In order to understand the subtle relations between the variables, we have constructed a set of indicators, as follows (see Table 2):

Table 2. Table with the main statistical indicators used in data analysis

<table>
<thead>
<tr>
<th>No.</th>
<th>Indicator</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Arithmetic mean, whole sample, calculated for both concept and adjectives</td>
<td>MG</td>
</tr>
<tr>
<td>2.</td>
<td>Arithmetic mean, students sample, calculated for concepts</td>
<td>MGS</td>
</tr>
<tr>
<td>3.</td>
<td>Arithmetic mean, teachers sample, calculated for concepts</td>
<td>MGP</td>
</tr>
<tr>
<td>4.</td>
<td>Arithmetic mean, students sample, calculated for adjective n</td>
<td>MS(Pn)</td>
</tr>
<tr>
<td>5.</td>
<td>Arithmetic mean, teachers sample, calculated for adjective n</td>
<td>MP(Pn)</td>
</tr>
<tr>
<td>6.</td>
<td>Arithmetic mean, students sample, calculated for concept n</td>
<td>MS(Cn)</td>
</tr>
<tr>
<td>7.</td>
<td>Arithmetic mean, teachers sample, calculated for concept n</td>
<td>MP(Cn)</td>
</tr>
<tr>
<td>8.</td>
<td>Arithmetic mean, whole sample, for concepts with a European dimension</td>
<td>MCE</td>
</tr>
<tr>
<td>9.</td>
<td>Arithmetic mean, whole sample, for concepts without a European dimension</td>
<td>MCN</td>
</tr>
<tr>
<td>10.</td>
<td>Arithmetic mean, students sample, for concepts with a European dimension</td>
<td>MCES</td>
</tr>
</tbody>
</table>
We also applied the independent samples t-test and Mann-Whitney U test for two independent samples using SPSS 17. We used both parametric and non-parametric tests because the SeD scale can be interpreted as having either interval or ordinal values.

### Results

The hypothesis was confirmed as we have observed a more critical attitude of the teachers regarding the content of mental images for the following concepts: Romanian primary teacher training school, MP(C4) = 3.09; Romanian primer, MP(C8) = 2.60 and Romanian primary school teacher, MP(C6) = 2.61. Students group was more critical towards concepts like: European elementary school teacher, MS(C1) = 2.52 and Romanian elementary school teacher MS(C2) = 2.68.

By using Mann-Whitney U Test, we compared the groups’ mental image, calculating the correlation between the samples’ synthetic indicators. We found out that there is a negative correlations for the following concepts: SRI1 (Z = -4.07, p = 0.00), SRI1 (Z = -3.37, p = 0.000), AR6 (Z = -3.10, p = 0.00), SRI2 (Z = -2.95, p = 0.00), SEI6 (Z = -2.88, p = 0.00), AR4 (Z = -2.73, p = 0.01), SR16 (Z = -2.71, p = 0.01), SEI 4 (Z = -2.68, p = 0.01), IR4 (Z = -2.68, p = 0.01) și AR10 (Z = -2.56, p = 0.01).

These results can be observed in Figure 3, where $U$ is Mann-Whitney U coefficient, $W$ is Wilcoxon W coefficient, and $Sig.$ represents Asymptomatic Sig (2-tailed):
The application of parametric t-test for two independent samples (which reflects the understanding of SeD’s scale as an interval one) confirm the non-parametric test Mann-Whitney U (see Figure 4) and indicate significant differences between samples on the concepts C4, C3 and C8. We obtained the following values for composite indicators for the C4 concept dimension: SRI4, $t = -3.71, p = 0.00$; SRI1, $t = -3.46, p = 0.00$; SRI2, $t = -2.85, p = 0.00$; SRI6, $t = -2.42, p = 0.02$; SRI5, $t = -2.28, p = 0.02$. For C3 concept, we identified the following: SEI6, $t = -2.73, p = 0.01$; SEI5, $t = -2.25, p = 0.03$; SEI2, $t = -2.09, p = 0.04$. For the concept C8 we obtained the following results: AR6, $t = -2.31, p = 0.02$ and AR10, $t = -2.02, p = 0.04$.

These results reflect a critical perception of the Romanian school, viewed by the teachers on the following dimensions: ugly, bitter, bad, weak and passive, unlike the students, who were more reserved in this regard. Just as with Mann-Whitney test, the results confirm a negative perception of the European school pictures by the teachers (seen as weak, passive and bad) and the Romanian primer seen as weak and dark.
Table 4. The rank of negative coefficients, according to t-test for independent samples

<table>
<thead>
<tr>
<th>Composite indicator</th>
<th>Levene’s Test for Equality of Variations</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRI4</td>
<td>0.01</td>
<td>0.92</td>
</tr>
<tr>
<td>SRI1</td>
<td>1.74</td>
<td>0.19</td>
</tr>
<tr>
<td>SRI2</td>
<td>0.01</td>
<td>0.93</td>
</tr>
<tr>
<td>SEI6</td>
<td>4.54</td>
<td>0.03</td>
</tr>
<tr>
<td>SRI6</td>
<td>0.00</td>
<td>0.95</td>
</tr>
<tr>
<td>AR6</td>
<td>1.20</td>
<td>0.27</td>
</tr>
<tr>
<td>SRI5</td>
<td>0.36</td>
<td>0.55</td>
</tr>
<tr>
<td>SEI5</td>
<td>1.01</td>
<td>0.32</td>
</tr>
<tr>
<td>SEI2</td>
<td>0.06</td>
<td>0.81</td>
</tr>
<tr>
<td>AR10</td>
<td>0.09</td>
<td>0.77</td>
</tr>
</tbody>
</table>

As we anticipated, the values obtained by Mann-Whitney test are congruent with those obtained by t-test, which opens multiple possibilities for use of the scale interval DSO at a European level. After applying SEd, we obtained the above graph (see Figure 1), which illustrates the distribution of European mental images concerning the eight concepts analyzed for the three samples included in our research project. We can see at the first glance, both the common trend in which the two images structures fall and the differences, sometimes quite pronounced, which can be analyzed down to the smallest detail using the indices mentioned above. From the graph we can also observe that the students have more positive images (being close to 0, i.e. positive pole), closely followed by those of teachers, which we could characterize as moderately optimistic. However, the mental images trend is positive, close to the median (equal to 3.5) of our scale, which suggests an open and optimistic attitude towards European values.
Discussion

On one side, the rejection of the concept C1 and C2 (it is also important that C2 has a greater value than C1) by the students may be a consequence of their desire for a higher social status in comparison with the other social categories or even in the subgroup of teachers. On the other side, the institutional aspect of school is criticized by the primary school teachers which can observe very well European and Romanian schools’ changes and transitions. Their attitude reflects a certain dissatisfaction regarding their own professional development that “contaminates” the European school as well, suggesting a greater fear of the high educational standards and ambitions of the European Union. We can also observe the relative negative attitude of the teachers concerning the “national” concepts: Romanian teacher in primary school teacher and Romanian primer, which reflects, in our opinion, the tendency of renewing and reformation the Romanian school and modernization of the curriculum, trying bring it closer to the European standards.

By analyzing Mann-Whitney U-test’s results we can appreciate that most of the differences between the two groups are in the area of national (Romanian) concepts. The teachers perceive the Romanian school as bitter, ugly and weak. Their opinion is not gentler in the case of Romanian primer (a rather negative concept, but anyway, under the median). Their answers reflect a certain maturation of mental images’ development and an awareness of the differences between European and Romanian educational systems. The most sensible concepts (those where we recorded the highest differences) were: C4, C8, C3 and C1. The most sensible adjectives pairs in measuring the correlations were: P4 (beautiful – ugly), P6 (powerful – weak) and P2 (good – bad), which suggests, as we previously considered, a rather emotional approach to mental images.

The emotional aspect, which constitutes an important aspect of the European mental images was for a long time underrated in the field of Romanian pedagogical research. But especially this aspect, in our opinion, can explain the mentality of the teachers and students who are facing now great challenges on multiple dimensions: educational, economical and social (Iucu, 2000). European Union aims to develop certain mental images regarding quality, digital or entrepreneurial competences or continuous professional development to take just a few examples. But are these images going to be internalized by the Romanian teachers and students? What European mental image is a teacher supposed to have when he is bound to graduate pedagogical high school, then a three year institutor college, followed by university studies in the field of primary and preschool education in order to hold his position? However, we can observe that both students and teachers maintain the European values in high regard, in spite of the harsh conditions of the Romanian education system. Knowing which are the issues that makes a teacher or students dissatisfied is a great advantage for
University professors, working in the field of education sciences (and not only) but also for the policy makers at European, national, regional and local level (Strungă, 2009). We can construct a curriculum that takes into account the process of professional identity development based on mental images (Strungă, 2009; Pelini, 2011). This would be a great asset if we want a functional educational system with concrete results that will closely follow those established by the European Union (Iucu, 2004; Iucu, 2009). Because the results are, in our opinion, most of the times due to mental images and professional identity than to poverty, economical crisis or other external reasons with a lower impact in teachers’ activity. A teacher (and also a student) aware of the importance of being a European teacher in primary education (that creates the basis of the future European citizens culture) will have better results than another teacher who has not clear values regarding the direction in which our education is going or without the knowledge of the European education landscape, which tends to be more and more relevant.

**Conclusion**

Hence, we consider that the study of the mental images is a rich field of study in education sciences, taking profit of the interdisciplinary nature of the subject. We also see Osgood’s semantic differential as a very subtle and efficient way of measuring these mental images, in the context of the diversity of cultures and nations that constitutes European Union. Education science must integrate elements from social psychology and social cognition in order to cope with the issues like economic crisis, professional identity development or professionalization (Martin & Strungă, 2009). A new conceptualization of the education sciences, taking into account relevant issues like mental images, could be necessary as well (Strungă & Strungă, 2008).

There is a significant value gap between how are appreciated the European teacher and European primer concepts (mostly positive) at one pole and how are appreciated the national school for teacher training and national teacher (mostly negative) at the other pole. The driving force that causes this gap can be found in the organic dissatisfaction of our subjects (i.e. primary and preschool specialization students or elementary school teachers) regarding the national primary teacher training school’s inadequate functioning. These intervention forces are engaged in our opinion, by three important factors: (a) excessive politicization tendencies; (b) bureaucracy and possible corruption; (c) curriculum disturbances.

Since it is difficult to intervene effectively in the first two factors, our attention, from a socio-pedagogical point of view, can focus on optimizing and restructuring the curriculum (Disckson, 2002; Alexander, 2004; Brown, 2004; Assunção Flores, 2005; Gislason, 2009; Alexander & Russo, 2010; Ali, 2010; Armstead et al, 2010;
Strungă & Bunăiu, 2013). The identification of the central core of the common European images of trainers, teachers, students could allow converting them into curricular elements, their effective integration in the training and retraining of teachers who are active in the field of primary education.

From a methodological point of view, SEd application has identified the central core and the peripheral elements of European mental images for both groups studied in our survey. The sensitivity of the instrument, on the other hand, has been confirmed again, especially through the use of summary tables with advanced statistical indicators and tests both parametric (e.g. T-test for independent samples) and non-parametric (e.g. Mann Whitney U-Test).

The fact that the largest differences are recorded in connection with the European teacher and national teacher highlights the acute sensitivity of the subjects be they students, teachers or trainers, to the professional status of teachers, or in a more appropriate form the status of elementary school teachers (who are graduating the primary and preschool specialization). It is necessary to highlight the critical elements, incidence and vulnerable areas of this status, and their remediation, either by restructuring the curriculum, either by developing initial educational policy projects for initial training. It would also be necessary the restructuring and finalization of the tenure educational frameworks and of the other mechanisms of teacher training optimization for the teachers and specialists who activate in the field of primary and preschool education.

References


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