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1

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CUPRINS – CONTENT – SOMMAIRE – INHALT

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DAS CURRICULUM IN KONZEPTIONELLEN NETZWERKEN UND IN DEREN APPLIKATIONEN (VERWENDUNG)

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ABSTRACT. Curriculum in Conceptual Networks and their Applications (Utilization). The content of this article is focused on several contemporary debates on developments in contemporary pedagogy and its impact on school curriculum. Here we included six topics which we founded as being very relevant for today debates: 1. From "Analytical Pedagogies" to the Synthesis in Sciences of Education" 2. Curriculum between concept and application; 3. The need for conceptual clarification; 4. Trends and guidelines for curriculum conceptualization; 5. Types of curricula and their relevance to contemporary education and 6. Pedagogy of curriculum: conceptual framework and application.

Keywords*: contemporary pedagogy, analytical pedagogies, synthesis in the educational sciences, curriculum, types of curriculum, curriculum as classes of inclusion*

Zusammenfassung. Das Konzept *Curriculum* wird heute sehr oft in Bildungskontexten erwähnt. Ist aber dieses Konzept genug erklärt? Wir versuchen dies in der folgenden Arbeit zu erfahren, durch die Darstellung von mehreren Definitionen und Ansätze. Des Weiteren diskutieren wir die Struktur des Bildungssystems in Rumänien und die Rolle das Curriculums dabei. Am Ende stellen wir eine Liste von wichtige Konzepte aus dem Bildungsgesetz vor, damit diese Erklärung umfassender wird.

Schlüsselwörter: *Curriculum, Bildungsplan, Bildungswissenschaften, Inklusionsklassen, Bildungssystem in Rumänien, Gemeinsamer Kern, Lokales Curriculum, nationales Bildungsgesetz in Rumänien, alte und moderne Paradigmen der Bildung.*

Inhalt

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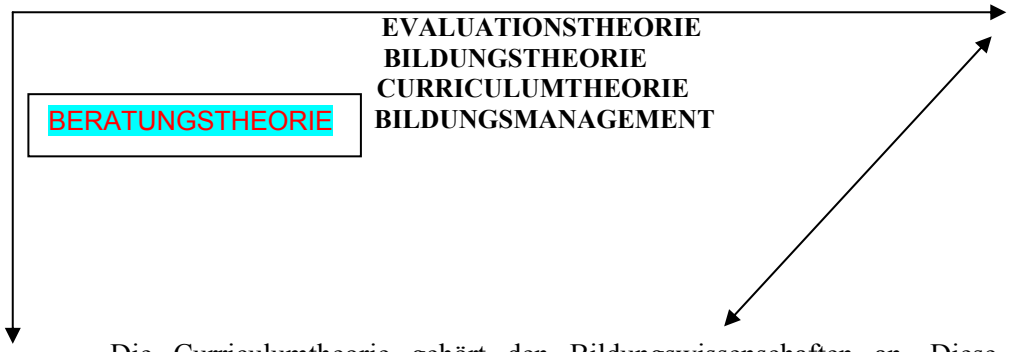
I. Curriculum zwischen Konzept und Anwendung

Wir stellen in Abbildung 1 die thematische Integration von Dimensionen in den Bildungswissenschaften vor, nach Studien, die von uns in diesem Bereich durchgeführt wurden.

Abbildung 1: Integration der Studienrichtungen in Bildungswissenschaften



Die Curriculumtheorie gehört den Bildungswissenschaften an. Diese thematische und angewandte Dimension ist eine der dynamischsten und, natürlich, vom zeitgenössischem Interesse.

Nach einigen Literaturhinweisen, sollte das Curriculum eine Bezeichnung sein, die schon seit dem 16. und 18. Jahrhundert verwendet wird (Leiden Universität, 1582 und Glasgow Universität, 1633).

Die ersten Veröffentlichungen zum Curriculumsthema sind jedoch Werke, die viel später erschienen sind, wie zum Beispiel das Buch von Bobbit John Franklin (1918) *The Curriculum,* Boston, Houghton Mifflin.

I.1. Die Notwendigkeit einer begrifflichen Klärung

Das Konzept *Curriculum* ist eine Klasse, eine Reihe von sehr vielfältigen und strukturierten Bildungskomponenten nach mehreren Kriterien. Aus unser Sicht, ist Curriculum eine sehr breites *konzeptuelles Netzwerk*. Für diesen Ansatz haben wir uns systematisch mit der Curriculum-Kartografie und dem Curriculum-Mapping beschäftigt. Zahlreiche Beispiele der Curriculum-Kartografie haben wir folgender Website *www.curriculummapping101.com* entnommen.

Die Konzeptkarte besteht aus der Entwicklung von Grafiken, um das Wissen in verschiedenen Strukturen zu organisieren (Novak & Gowin, 1984). Die konzpetionellen Strukturen sind in mehrdimensionalen Netzwerken eingesetzt, die die Bedeutungen und die Relationen innerhalb der Netzwerke aufzeigen.

Heute findet man in der Curriculumstheorie und in deren Bezugsdisziplinen viele Begrifflichkeiten. Es gibt viele Veröffentlichungen und verschiedenen Ansichten über das, was das Curriculum sei, seines Design und seiner Anwendung in der heutige

Bildung. Ohne semantische und relevante betriebliche Organisation des Curriculums, kommt es zwangsläufig dazu, dass lächerliche oder umgekehrt, zu komplizierte, Anwendungen erscheinen. Denn, aufgrund seiner Rolle als Hauptorganisator der Einzelteile der zeitgenössischen Erziehung, würden Fehler oder eine zerkleinerte Behandlung im Rahmen des Curriculums zu Störungen in anderen Bereichen der Bildung führen.

Die zeitgenössischen Forschung über das Curriculum fordert folgendes: das Curriculum immer *am Raum der Schule* anzupassen. Es gibt vier Schlüsselfaktoren für eine optimale Organisation des Curriculums:

- Der Stundenplan, die schulische Arbeitszeit, auf kurze und lange Sicht.
- Die Art und Weise wie Einzel- und Gruppenaktivitäten organisiert werden.
- Die Zuweisung von Lehrkräften zu Aktivitäten, Klassen, Gruppen.
- Die Verwendung vom Bildungsraum, der zur Verfügung steht.

Curriculum ist ein integriertes Konzept (Fogarty, R., Stoehr, J. (1991). Wir meinen, dass die curriculare Integration von pädagogische Komponenten auf mindestens zwei Ebenen abzielt: a). Die Betonung aller Komponenten des Bildungsprozesses, wie Ziele, Inhalte, Methoden und Ausbildungmittel u.s.w. und b). Die Integration von Fachgebieten und/oder curricularer Ebenen in verschiedenen Modellen des integrativen Unterrichts (transdisziplinär).

Angesichts des breiten, multi-variierten thematischen Bereichs des schulischen Curriculums, ist es in diesem Bereich stets erforderlich den begrifflichen Horizont oder die konzeptionellen Netzwerke des Begriffs zu klären und zu entwickeln. Spezifische Fragen sind nützlich, um die Forschung des konzeptionellen Netzwerks zu leiten, ein Netzwerk, in dem, das Curriculum inklusiver Kategorien erzeugt.

- Wie wird das Curriculum etymologisch definiert?

- Wie wird das Curriculum in der Pädagogie / Erziehungwissenschaft der Welt definiert?

- Welche sind die bestimmenden Kennzeichen des Curriculums, die das Potenzial haben, die Reform in Rumänien wieder zu beleben?

I.2. Trends und Rechtlinien in der Konzeption von Curriculum. Definitionen und Deutungen

I.2.1. Etymologische Definitionen

The Oxford English Dictionaries, 2010 stellt folgende Definitionen vor:

Curriculum: Aussprache in English/ kʌˈrɪkjʊləm/ ‚Namenwort (pl. curricula / curriculums).

Bedeutung: *Die Themen, die in einem Studiumkurs an der Schule oder Hochschule abgedeckt sind (The subjects comprising a course of study in a school or college).*

Abgeleitetes Wort: lehrplanmäßig, Adjektiv.

Hinwies: Der Plural für Curriculum kann Curricula (mehrere Lehrpläne) (Latein) oder Curriculums (Lehrpläne) (English) sein.

Herkunft: *curricle (Lehrplan)* (Latein), Begriff wird in zwei unterschiedlichen Bedeutungen verwendet: Rennen, Aktion oder Wagen, mobil, Weg, Art und Weise des Handelns.

Arthur K Ellis (2004) betont folgende Kenndaten der Herkunft des Begriffs *Curriculum*: ein *curricle* war, zu Beginn des 19. Jahrhunderts ein Wagen, (Kutsche) für *Fahrer und Reisende*. Dieses *curricle* hatte einen gut positionierten *Stuhl (chair)* für die Führung. Curricle-Kutsche waren für den Fahrer und für die Reisenden sehr populär in Europa im frühen 19. Jahrhundert. Diese Bezeichnung hat ihren Ursprung in dem lateinischen Begriff *curriculum:* rennen, laufen.

In der etymologischen Definition von Arthur Ellis werden zwei ergänzende Bedeutungen des *Curriculums* eingefügt. Die ursprüngliche Bedeutung, von *currere,* im Sinne von Handeln, Erfahrung (Rennen), wird oft in pädagogischen Quellen zitiert. Sie hat aber auch eine neue Bedeutung, im Sinne von *Art und Weise des Handelns und dessen Motivation. Diese Bedeutung wird* in der pädagogische Literatur weniger erwähnt.

Es ist nötig das Curriculum, in seiner Darstellung von pädagogischer Kategorie, mit den etymologischen Definitionen zu vergleichen, weil wir auf diese Weise eine breite Palette von Bedeutungen erhalten, wie sich das Konzept seit seiner Herkunft bis heute entwickelt hat.

I.2.2. Zeitgenössische Bedeutungen

Laut John Franklin Bobbitt (1918), der erste Autor von Publikationen über das schulische Curriculum, hat dem Begriff *Curriculum* zwei definierenden Merkmale zugewiesen: a). *Es ist ein Bereich der sozialen Technik* und seine Ausarbeitung bedeutet hohe Erfahrung und hohes Fachwissen, b). definiert die nützlichen Erfahrungen für die Schülern bei der Entwicklung zu einem erwachsenen Menschen.

Laut Kelly, A.V. (1989), enthält die Definition des Curriculums zwei andere ergänzende Teile: eine gewisse Zahl von Kursen, *Studienfächern,* aus denen der Schüler die Studienthemen wählt und *ein artikuliertes Programm des Lehrens, Lernens und der Beurteilung,* ein angemessenes Trainingsprogramm mit den gewählten Fächern und Kursen.

Curtis C. McKnight (2001) hat ein dreidimensionales Analyse-Modell des Curriculums vorgeschlagen: *die absichtliche Dimension,* als Studienprogramm oder Studienplan; *die geeignete Dimension*, als Handeln, als Umsetzung des Curriculums und *die experimentelle Dimension*, als Route des Lernens. Die meisten zeitgenössischen Studien halten an zwei der oben erwähnte Dimensionen fest: a) vorgeschriebenes Curriculum, vorgeschlagenes Curriculum und b). behandeltes Curriculum, hergestelltes Curriculum.

a). Vorgeschriebenes Curriculum, vorgeschlagenes Curriculum. Curriculum als Programm/Studienplan (präskriptive Dokumente). Im präskriptiven Sinne ist die Debatte über das Curriculum in der Ebene von Absichten, von Arbeitsplan, von Expertenmeinungen über das, was in einen Studiengang integriert werden sollte. Der präskriptiven Sinn definiert Curriculum als Aussicht, als Orientierung und als zukünftige mögliche Handlung. Die Experten schreiben ein Curriculum vor, aber die Lehrer sind diejenigen, die entscheiden was sie in der Praxis umsetzen und was nicht.

Der präskriptive Charakter des Curriculums wird in verschiedenen Definitionen genannt, als: *„eine Gesamtheit von Kenntnissen, die vermittelt werden müssen"; „ein Studienplan entworfen, um eine Gemeinschaft zu erfüllen"; „ein Lernenprogramm"* u.s.w.

Das vorgeschriebene/ vorgeschlagene Curriculum ist demnach ein vollständiges Dokument, fertig und einsatzbereit. Es gibt viele Dokumente, die das vorgeschriebene Curriculum beinhalten: National Curriculum, Lokales Curriculum, Rahmenpläne, Verzeichnisse, Handbücher u.s.w.

b). Behandeltes Curriculum, hergestelltes Curriculum. Curriculum als eine Reihe von Lernerfahrungen des Schülers und Lehrers.

Das Curriculum definiert als Lernerfahrungen betont nicht mehr den Projekt-Status, dieVorschrift, sondern den Prozess-Zustand, die Einführung: Es beschreibt, wie ein Curriculum-Projekt in der Schule und im Klassenzimmer funktioniert.

Die Aspekte des Curriculums *a – Plan, Programm* und *b – Lernerfahrungen* sind immer ergänzend und stehen nicht im Gegensatz zueinander. Ronald Doll (1996) hat eine integrierte Definition der beiden Perspektiven vorgeschlagen und zwar: das Curriculum bezieht sich auf die formellen und informellen Inhalte, aber auch auf die Prozesse, durch die, die Schüler lernen und verstehen, Fähigkeiten erwerben unter der Leitung der Schule.

Marsh, C. J. Şi Willis, G. (2003) erarbeiten eine Synthese von den häufigsten Definitionen des Curriculums, die sie in der pädagogische Literatur gefunden haben. Diese Autoren schlagen als Ergebnis ihrer Forschung folgende Definitionen vor:

- **Curriculum als Gruppe von Studienthemen**

Curriculum beinhaltet die Studienfächer, die Unterrichtsfächer, wie Grammatik, Lesen, Logik, Rhetorik, Mathematik, die Fächer, die am besten das wichtigste Wissen integrieren.

- **Curriculum als Gruppe von nützlichen Themen**

Curriculum enthält die Themen, die sehr nützlich für die Existenz des Menschen in der heutigen Gesellschaft sind.

- **Curriculum als geplantes Lernen**

Curriculum meint geplante Lernsequenzen, für derren Fertigstellung, die Schule verantwortlich ist.

- **Curriculum als Lernerfahrungen**

Curriculum umfasst alle Lernerfahrungen, die die Schüler unter der Anleitung der Schule bekommen.

- **Curriculum als Mittel zur Begleitung von Kenntnissen und Fähigkeiten**

Curriculum beinhaltet alle Lernerfahrungen, die den Schülern angeboten werden, so dass, sie allgemeine Fähigkeiten und Kenntnisse durch verschiedene Lernsituationen erwerben.

- **Curriculum als Lernen mit dem Computer**

Curriculum ist das, was die Schüler mit dem Computer und durch die Verwendung von verschiedenen Netzwerken wie das Internet bauen.

- **Curriculum als Untersuchung und Befragung**

Curriculum ist die Befragung und die Untersuchung von Wahrnehmungen der verschiedenen menschlichen Situationen.

- **Curriculum als Lebenserfahrungen**

Curriculum umfasst alle Erfahrungen, die die Menschen in ihre Lebenszeit haben.

Wir meinen, dass ein Curriculumsprojekt mit Chancen für eine optimale Verwendung in der Bildung diese definierende, ergänzende Merkmale übernehmen muss.

II. Typen von Curriculum und deren Relevanz für die zeitgenössische Bildung

Auf der Grundlage der Analyse von Definitionen, Bezeichnungen und Klassifizierungen, die zur Zeit in der pädagogische Literatur über das Curriculum getroffen werden *(Curriculum Pädagogik)*, haben wir die Konzepte nach den identifizierten *Inclusionsklassen* gruppiert. Wir stellen weiter die *konzeptionellen Inclusionsklassen der Kategorie Curriculum* unter dieser generischen Definition vor:

Curriculum ist eine konzeptuelle Netzwerk mit vielen Inclusionsklassen.

1. Ebenen der Schichtung

- Kerncurriculum
- lokales Curriculum (lokale Entwicklung des Curriculums, Curriculum der Schule)
- individuelles Curriculum (fakultativ)
- differenziertes Curriculum
- angepasstes Curriculum
- beschleunigtes Curriculum
- angereichertes Curriculum

2. Entwicklung – Umsetzung

- vorgeschriebenes Curriculum (formal, entworfen)
- unterrichtetes Curriculum (behandelt)
- gelerntes Curriculum (erzielt)
- bewertetes, geprüftes Curriculum

3. Typologie – Taxonomie nach verschiedenen Kriterien

- explizites Curriculum /schriftliches Curriculum
- gesellschaftliches Curriculum (Cortes, 1981)
- verdecktes Curriculum (Shane, 1993)
- nulltes Curriculum (Eisner 1994)
- Gespenst-Curriculum
- begleitendes Curriculum
- rhetorisches Curriculum
- innerbetriebliches Curriculum
- elektronisches Curriculum

4. Dokumente – Unterstützung Materialien

- Nationales Curriculum
- Rahmenprogramme
- Schulprogramme
- Anleitungen
- Handbücher
- anwendungsbezogene Bücher

5. Curricularen Bereiche (Beispiele)

- Sprache und Kommunikation
- Mathematik und Naturwissenschaften
- Mensch und Gesellschaft
- Kunst
- Sport
- Technologien
- Beratung und Anleitung

6. Schulfächer, Beispiele: Muttersprache, Mathematik, Physik, Geschichte, Geographie, Informatik, Sport, Kunst, Zeichnung, u.s.w.

7. Curriculare Zyklen, all diejenigen, die im Rahmenprogramm der Curriculum-Reform in Rumänien erwähnt sind.

<table>
<tr><td>19</td><td rowspan="5">Liceum (dt: Gymnasium) - theoretisch, technologisch, beruflich

Berufsschule
Ausbildungsschule</td><td>XIII</td><td rowspan="2">Spezialisierung</td></tr>
<tr><td>18</td><td>XII</td></tr>
<tr><td>17</td><td>XI</td><td rowspan="2">Vertiefung</td></tr>
<tr><td>16</td><td>X</td></tr>
<tr><td>15</td><td>IX</td><td rowspan="2">Beobachtung und Orientierung</td></tr>
<tr><td>14</td><td rowspan="4">Gymnasium
(Dt:Sekundarstufe II)</td><td>VIII</td></tr>
<tr><td>13</td><td>VII</td><td rowspan="2">Entwicklung</td></tr>
<tr><td>12</td><td>VI</td></tr>
<tr><td>11</td><td>V</td></tr>
</table>

10	**Grundschulbildung**	IV	
9		III	
8		II	**Grundlegende Beschaffungen**
7		I	
6	**Vorschulische Erziehung**	Vorbereitendes Jahr	
5			
4			
3			

III. Die Pädagogik des Curriculums: konzeptionelle Konstanz und variabele Applikationen

Die heutige moderne Pädagogik des Curriculums betont den flexiblen Charakter der Studienprogramme/ schulischen Lernerfahrungen. In der Grundschulbildung und in der Sekundarstufe ist die Flexibilität des Curriculums durch eine Schichtung in drei voneinander unabhängige, aber ergänzende Kategorien gesichert. Diese Kategorien des Curriculums finden sich konstant in den meisten Bildungssystemen, obwohl ihr Name von System zu System unterschiedlich ist.

- **Kerncurriculum (international: Core Curriculum)**

Das Kerncurriculum (Core Curriculum) enthält die notwendige Lernerfahrungen für alle Schüler, die in einem Studiengang eingeschrieben sind oder die ein besonderes Profil studieren. Typischerweise wird das Kerncurriculum von den nationalen Bildungsbehörden gesetzt und weist vor allem auf die Grund- und Sekundarstufe hin. Es gibt aber auch andere Universitäten, die entscheiden, den Studenten eine Liste von gemeinsamen Kursen in einem Bereich der Spezialisierung anzubieten.

- **Lokales Curriculum**

Das lokale Curriculum besteht aus lokalen Inhalten und spezifische Lernerfahrungen der Gemeinde (sozial und wirtschaftlich), in der die Schule liegt. Die Lernerfahrungen vermitteln den Schülern Kenntnisse über Plätze, Werte, Traditionen, die derzeitige Praxis in der Gemeinschaft und sichern auf diese Weise grössere Chancen für eine wirtschafliche und soziale Integration in diese Gemeinschaft.

- **Individuelles Curriculum**

Das individuelle Curriculum ist ein persönlicher Lehrplan basierend auf zwei Besonderheiten: die pädagogischen Bedürfnissen und Möglichkeiten der Schüler. Der Schüler wird als ein Individuum angesehen.

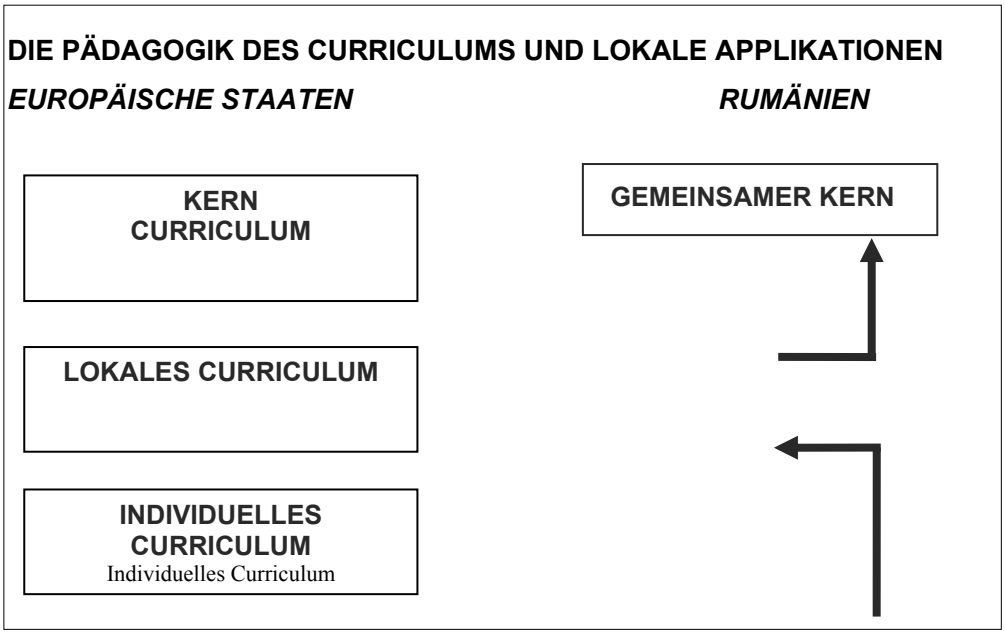
Wenn die Schüler in höhere Bildungsstufen wechseln, kann der Anteil des lokalen und des individuellen Curriculums immer mehr ansteigen.

Die Verbindung dreier Kategorien des Curriculums zu einem komprehensiven Projekt stellt sich aus zwei Gründen als komplizierter Vorgang dar:

(1). Die konzeptionelle Karte des Curriculums ist umfassend und komplex. Es gibt sehr viele curriculare Strukturen,die in Wechselbeziehung zueinander stehen und die uns somit dazu verpflichten alle möglichen Kombinationen zu betrachten und zu validieren.

(2). Die Konzentration auf bestimmte Arten von Curricula kann die Grundprinzipien der Curriculumsgestaltung stören, wie zum Beispiel Prinzipien wie *Chancengleichheit, Bildung für alle, inklusive Bildung, Bildung für hochbegabte, Curriculum der Schule gegen Curriculum entsprechend den Bedürfnissen der Gemeinschaft, Curriculum konzentriert auf Kenntnisse und Wissen gegen Curriculum zentriert auf Fähigkeiten* u.s.w.

In Abbildung 2 stellen wir eine Parallele zwischen der Schichtung des Curriculums bei uns und der Schichtung des Curriculums in anderen Bildungssystemen in Europa vor.



Die zentrale Rolle des Curriculums in den Bildungssystemen der Welt ist die Lehrpläne flexibler zu machen, um die Veränderung vom alten Paradigma der Bildung – *der Schüler muss sich zur Schule anpassen* zum modernen Paradigma – *die Schule muss sich den Schülern anpassen* zu ermöglichen.

Folglich, wird das Curriculum der führenden Motor in der Modernisierung des Bildungssystems. Es schlägt verschiedenen Studien-, Gruppen- und personalisierte Wege vor, anstelle der alten, gemeinsamen und obligatorischen Lerninhalte.

Situationsanalysen in der Schule zeigen, dass Schichtungen in unserem Curriculum weitgehend eine formale Aktion sei und die tatsächlichen Anwendungen bleiben oft in den alten Ansätzen, den gemeinsamen und verpflichenden Programmen, verankert.

Das Lerncurriculum ist nicht mit *lokalem* oder *regionalem Curriculum gleichzusetzen*. Es ist auch nicht gleichwertig mit dem *Schulcurriculum* (*School Curriculum)*. Das Lerncurriculum besteht oft aus Erweiterungen oder Vertiefungen des gemeinsamen Kerns. In der Tat ist es bequemer für die Schule Erweiterungen oder Vertiefungen des Kerncurriculums anzunehmen. Ein so genanntes neues Lerncurriculum wird durch zahlreiche bürokratische, pädagogische Schwierigkeiten markiert. Daher, ist das Lerncurriculum im Kerncurriculum integriert, so dass die beiden Schichtungen - *gemeinsamer Kern und Lerncurriculum* – sich im Kerncurriculum verschmelzen.

Das Schulcurriculum umfasst bei uns Wahlfächer, ein Ausdruck von individualisiertem oder angepasstem Curriculum. Aber Schulen bieten zu wenige Wahlfächer an. Schüler haben nur sehr wenige Optionen zur Auswahl, zwischen denen sie sich entscheiden müssen. So wurden in unsere Schule die sogenannten obligatorische Wahlfächer berühmt.

Die Schlussfolgerung ist einfach: *das Optional* ist in das Schulcurriculum intergriert, *das Schulcurriculum* ist in das Kerncurriculum integriert, das Kerncurriculum wird das Hauptsegment der „Lehrplan", was nicht pädagogisch als Curriculum bewertet werden kann. Man kann heute sagen, dass in der Gegenwart das rumänische Bildungssystem nicht unter irgendeinem Lehrplan funktioniert. Es gibt keinen Lehrplan im pädagogischen Sinn, obwohl es viele verdienstvolle Wünsche und Anfragen für die Umsetzung des Curriculums in rumänischen Schulen gibt.

KONZEPTE, DIE IN DEN NATIONALEN BILDUNGSGESETZ ERWÄHNT WERDEN

1. **Nationales Curriculum** ist ein verständliches Gesamtkonzept, von allgemeinen Lehrplänen und von Schulprogrammen in der schulische Ausbildung. (Kapitel IV, 64.2).

2. **Die allgemeinen Lehrpläne (Rahmenpläne)** enthalten die Schulfächer, die Studienbereiche, die obligatorischen und fakultativen Ausbildungsmodule und die minimale und maximale Anzahl von bezogenen Stunden (IV, 65.1).

3. **Der gemeinsame Kern** besteht aus Schulfächer/Studienbereiche/ obligatorische Bildungsmodulen und das Curriculum der Schule besteht aus Schulfächern/Studienbereichen/ fakultativen Bildungsmodulen (IV.65.2).

4. **Die Schulprogramme** bestimmen die verfolgten Ziele für jedes Fach, Studienbereiche/Bildungsmodule aus dem Lehrplan und markieren die grundlegenden,

theoretischen, experimentellen und praktischen Inhalte, bieten allgemeine methodische Leitlinien für ihre Erreichen und Bewertung (IV.65.3).

5. **Die Rahmenbildungspläne und die Schulprogramme** für die obligatorischen Schulfächer/Studienbereiche/Ausbildungsmodule werden von Institutionen und Agenturen des Ministeriums für Bildung, Jugend und Sport entwickelt. (IV.65.4).

6. **Das Curriculum der Schule** besteht sowohl aus Paketen von nationalen, regionalen oder lokalen Wahlfächern, sowie aus Paketen von Wahlfächern, die von der Schule, angeboten werden (IV.65.5).

7. **Die Schulprogramme** für die Fächer / Studienbereiche, fakultative Ausbildungsmodule werden in der Schule erarbeitet (IV.65.6)

8. Bei pädagogischen Alternativen, werden die Rahmenpläne und die Schulprogramme in diesen Institutionen entwickelt und danach von Institutionen und Agenturen des Ministeriums für Bildung, Jugend und Sport genehmigt (IV.65.7).

9. **Die Stundenanzahl** für die Fächer aus den Rahmenpläne ist maximal 20 Stunden pro Woche in der Grundschule, 25 Studen pro Woche in der Sekundarstufe und 30 Stunden pro Woche im Gymnasium (IV.66.1).

10. Im Nationalcurriculum haben die obligatorische Fächer eine Wichtigkeit von 80% in der obligatorischen Ausbildung und von 70% in Gymnasium (IV.66.3).

11. Im Nationalcurriculum haben die **Wahlfächer** eine Wichtigkeit von 20% in der obligatorischen Ausbildung und von 30% in Gymnasium (IV.66.4).

12. Abhängig von den Eigenschaften der Schüler und der Schulstrategie, entscheidet der Lehrer ob 25% der Zeit für die Fach/Studienbereich für **abhelfendes Lernen** verwendet wird, für Kinder mit besonderen Bedürfnissen, für Kenntisserweiterung oder für die Erregung von hochbegabten Schülern, nach individuellen Lernpläne entwickelt für jeden Schüler (IV.66.5).

13. **Nationalcurriculum für frühkindliche Erziehung** konzentriert sich auf die körperliche, kognitive, emotionale und soziale Entwicklung von Kindern bzw. auf die frühe Lösung von eventuellen Entwicklungmangeln (IV.67.1).

14. Nationalcurriculum für Grundschule und Sekundarstufe ist auf 8 **Fähigkeitesbereiche**, die das **Ausbildungsprofil des Schülers** ermittelt, zentriert (IV.68.1).

15. **Das Curriculum für die vorbereitende Klasse** folgt der körperlichen, sozio-emotionalen, kognitiven, sprachlichen Entwicklung, aber gleichzeitig auch der Entwicklung von Fähigkeiten und Einstellungen zum Lernen, fördert die Entwicklung den 8 Schlüsselkompetenzen (IV.68.14).

16. In staatlichen Schulen oder in Privatschulen verwendet man Handbücher und andere didaktische Materialien genehmigt von dem Bildungsministerium (IV.69.1).

17. Bildungsministerium genehmigt die Erarbeitung von **alternative** (IV.69.2).

18. **Die Curricularen Hilfsmittel** bestehen aus **methodischen Vorgaben**, die inhaltlich in Űbereinstimmung mit den geltenden Gesetzen sind. Die Lehrer haben die Möglichkeit diese auszuwählen und im Unterricht zu verwenden. Sie haben die Freiheit pädagogische Initiativen zu ergreifen., um die Qualität der Bildung zu verbessern (IV.69.5).

19. **Schulbibliotheken und die Dokumentation** sind organisiert und funktionieren im Rahmen einer Verordnung des Bildungsministeriums (IV.70.1).

20. Man baut **virtuelle Schulbibliotheken und schulische E-Learning Plattformen,** die Schulprogramme, Beispiele von Lektionen für alle Fächer in die Lehrpläne, methodische Anleitungen, Beispiele von Einstufungstests enthalten (IV.70.2).

21. Kinder und Jugendliche, die **hochbegabt** sind, bekommen, unabhängig von Alter, Bildungsprogramme, die ihre Lern- und Leistungbesonderheiten respektieren. Diese Programme **vertiefen das Lernen, gruppieren die Fähigkeiten, bereichern das Curriculum** mit neuen Bereichen, haben als Schwerpunkte **Betreuung und Vermittlung von Fachwissen**, um das Tempo der Förderung individuell zu verändern (III.5).

22. (98.2.e) schlägt dem Rat der Verwaltung **das Curriculum der Schule** vor.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 17 – 26

THE SCHOOL-FAMILY PARTNERSHIP FOR EFFICIENT TEACHING OF CHILDREN WITH LEARNING DISABILITIES

CORNELIA STAN*

ABSTRACT. Belonging to a particular social group or having a certain level of development should not be arguments for the exclusion of children from mainstream schools. The integrationist movement supports the contention according to which mainstreaming provides the most appropriate environment for quality educational achievements and for acquiring social and cognitive skills. To facilitate the integration of children with learning disabilities in mainstream schools, it is necessary that these schools ensure a friendly atmosphere and real integration. Yet, active family involvement in training and education of their own children should be considered as well.

Keywords: *school-family partnership, learning disabilities, inclusion, learning diary.*

Zusammenfassung. Die Zugehörigkeit zu einer bestimmten sozialen Gruppe oder ein individueller Entwicklungsstand sind keine Argumente für die Ausgrenzung von Kindern aus Regelschulen. Die integrationistische Bewegung unterstützt das Argument, dass die Regelschule der Rahmen und das am besten geeigneten Qualität Niveau für der Bildung und für das Erreichen von sozialen Kompetenzen und cognitive Eigenschaften versichert. Um die Integration von Kindern mit Lernschwierigkeiten in Regelschulen zu erleichtern, ist eine einladende Atmosphäre notwendig und die Integration im eigentlichen Sinne zu gewährleisten, aber die echte Einbindung der Familie in der Bildung den Kindern muss nicht vergessen sein.

Stichworte: *Schule-Familie Partnerschaft, Lernschwierigkeiten, Inklusion, Aufgaben-Tagebuch*

Introduction

The 1994 World Conference on Special Education in Salamanca based its guidelines on a new statement developed and launched by UNESCO. This statement asserts that the community rehabilitation of people with disabilities is part of community development and involves the combined efforts of persons who have these difficulties, their families, the members of the community, together with health, educational, professional and social services on the basis of ***modern principles of***

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inclusive education, required by the new guidelines in assisting people with special needs and in line with the UN resolution no. 48/96 from 1993: *the principles of normalization, equal rights, deinstitutionalization, development, equal opportunities in education, ensuring support services, early intervention, cooperation and partnership*.

The latter principle refers to the practical experience where it was found that the normalization and integration can be achieved if there is a permanent collaboration between stakeholders: students, teachers, parents, NGOs, counselors, etc. In inclusive education, cooperation among children in the learning process, between teachers and other professionals, as well as between family and school is a decisive factor for achieving academic success.

Aspects of the relationship between inclusive education and learning disabilities

Even in countries where inclusive education is provided by law (in Italy and Norway for 25 years, in Britain for 10 years and recently in the Netherlands), there is still a great discrepancy between the adopted projects and actual results. The difficulties stem from insufficient teacher training aimed at providing help for children with special needs, poor organization with too many children in mainstream schools and rigid conceptions on the part of teachers and of some parents.

According to the Salamanca Statement (1994), "The fundamental principle of the inclusive school is that all children should learn together, wherever possible, regardless of any difficulties or differences they may have. Inclusive schools must recognize and respond to the diverse needs of their students, accommodating both different styles and rates of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies , resource use and partnerships with their communities. There should be a continuum of support and services to match the continuum of special needs encountered in every school." (Article 7)

As every child belongs to a family, to a community or a school, each school in its turn belongs to a particular local culture, particular to the community the child belongs to, a fact which allows the formation of an "inclusive circle" of the three main agents of education , family - school - community, with an emphasis on family involvement and support.

Learning disabilities are more often found in early and middle childhood, because during this period social learning is strongly supported by academic learning, which is quite demanding. Signs of learning disabilities may be encountered at all ages, including the adult, when they may be less visible.

The first recognized definition of learning disabilities was proposed by Samuel Kirk: "A learning disability refers to a retardation, disorder, or delayed development (…) resulting from a possible cerebral dysfunction and/or emotional or behavioral disturbance and not from mental retardation, sensory deprivation, or cultural or instruction factors." (Quoted in Ungureanu 1998, p.22).

This definition established a relationship between learning disabilities and the term "a disorder in psychological processes" focusing on the problems of processing and how they interfere with school performance.

Agencies andd various organisations were set up to deal with learning disabilities, triggering a vast conceptualization process, which resulted in increasingly complex definitions. Such a definition, more extended and clearer, was given by the U. S. Interagency Committee on Learning Disabilities: "Learning disabilities is a generic term that refers to a heterogenous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities, or of social skills. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction." (ICLD Journal 1987, p. 222).

Later, this definition was extended again to the conclusion that "learning disabilities refer to a heterogenous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities." They are assumed to be caused by "central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability." (http://special.edschool.virginia.edu/information/uvald/lddef.html)

There is an remarkable correlation between learning disabilities and instrumental disorders as defined by Haim (1963) as "complex neurobiological data involved in human adaptation to the material environment through motor skills, and to the human environment through language" (1963, in Vrăşmaş, E., 2007 , page 25). In other words, it is about all functional mechanisms that may be considered as learning tools or facilitating learning. Increasingly, numerous studies support the idea that, in a fairly high proportion (two out of three cases), failure to adapt to school and problems faced by students in learning are due to instrumental and mood disorders.

Vrăşmaş (2007) talks about the fact that in specialist literature there are several approaches to learning disabilities, namely:

- The existence of learning problems in some students who can not keep up with others, have difficulties in understanding and gaps in knowledge acquisition and skills training.

These may be called *learning problems* and are mainly due to inappropriate ways to deal with learning at school. Furthermore, these problems are encountered only by some children during the school learning process and can be attributed mostly to the child because it is assumed that they should not have difficulties in the learning process when preparing and participating adequately. Thus, teachers consider the cause of these problems as arising from the lack of effort and participation of the learners and from particularities of their development. In all classes there are children with poor results due to learning disabilities and teachers should take this into account

when organising teaching situations. However, the success of learning is given only by the effort of these children and by the manner they prepare for work. Therefore, according to this assumption, learning is primarily the responsibility of children.

- Difficulties/ deficiencies/ disabilities related to the *learning process itself*, which are issues studied by special education. A new type of disability (disorder or development issue), which has not been previously included in recognized categories (mental, sensory, language, communication, psychological and motor) is thus acknowledged and may be recorded. Certain disorders/ disabilities are identified which refer to the general learning process, namely difficulties encountered by children in the complex process of their development and which manifest themselves in the academic and social integration in spite of no other problems or intellectual, motor or sensory disabilities. The field of study specific to this approach focuses on the general and specific mechanisms of learning with emphasis on the basic psychological and social dimensions of the difficulties/disorders encountered during the learning process. A particular set of problems is thus formed based on a large variety of manifestations related to individual and social learning.

- *General, non-categorial difficulties* of the learning process, which may occur with all children, regardless of their learning manner or style, in a perspective that brings together all children, not only those considered deficient. This research direction is a curricular perspective and is a reconstruction of the field of concepts, practices and intervention methods set forth by special education. This perspective relies on the assumption that all individuals have learning disabilities at a certain moment in a particular domain of their development. This should not entail a process of labelling or marginalisation or including children in set categories. Based on the idea that all children can learn and learning is a general method of adaptation and development, this field of study reconsiders the social value of learning. By approaching learning disabilities as a non-categorial domain, the identification, assessment and specific intervention in learning disabilities can be performed in terms of problems common to all children, including the assumption that deficiencies, disabilities and/or incapcities are also specific learning styles. All these are approached as features of the learning process instead of being considered permanent states. The curricular process emphasizes individuals' uniqueness, their life experience and learning support by adequate and stimulating inter-relations. Efficient learning is the goal of any educational activity, accepted methods are interactive whereas the deficiencies/incapacities are considered as disabilities, different manners of approaching the learning experience. In this perspective, both the process and the contents of learning are important.

The Impact of Family Environment on Learning disabilities

Several learning disabilities are derived from family or school issues:

- Low interest of the family towards the chid's learning activity;
- Low intellectual level, low expectations of family members;

- Lack of collaboration between family and school;
- Negative family emotional climate;
- Issues related to the teacher: bias, not using teaching strategies that meet age and learner features, inflexibility, use of teaching styles that do not fit learners' personality, lack of cooperation with other specialists;
- Issues related to the educational process: high requirements, work overload, overcharged curricula and difficult textbooks, overcrowded classes;
- Issues related to the classroom and school relationships - relationships between students, and between teachers.

Research shows that parents have a stronger reaction to the diagnosis of learning disabilities than to any other diagnosis. It should be noted that if a child has mental retardation or a disability, parents usually become aware of the problem during the first weeks of the child's life. During preschool years, there are usually no signs as to learning disabilities and parents do not suspect a problem. When informed of the problem by school / kindergarten staff, parents' first reaction is to deny the problem. Of course, this denial is not beneficial for the child, but nor is it for the parents who tend to maintain it for a longer period, which is a source for further frustrations for the child.

For these reasons, it is necessary for parents to be advised by the teacher or the support teacher, who must first consider family behavior out of school, both in terms of practical help in carrying out tasks and of the the development of a truthful self-image of the child.

As parents are part of the intervention team, discussions with them or even other family members involved in teaching / supervising children are especially useful for establishing children's progress, and to design the correct approach for an accurate customization of the program.

Research on learning disabilities indicates that the parents of such children undergo a range of emotions before accepting the child and their specific problem. These can result in a series of stages which, however, are totally unpredictable. A parent can pass from one stage to another at random, some skip stages, while others remain in a single stage for a long time. Each stage may be described by a word, in a range of rational or irrational beliefs: denial, guilt, fear, envy, pain, negotiation, anger, blame, isolation, escape.

The pattern of these reactions is unpredictable. The situation often worsens as the mother and father are being involved in different and contradictory stages at the same time (for example, guilt vs. denial, anger vs. blame). This can make the communication with the family become very difficult.

If parents accept the difficulty and guidance from specialist staff and are actively involved in the educational process, chances are that at least part of the child's learning disabilities fade away, diminish and can even be solved entirely.

Family involvement in overcoming children's learning disabilities

In the context of the above considerations, we set out a research in collaboration with a support teacher in a mainstream school to highlight the effects of academic activities in the home on reducing learning disabilities.

The assumption of this study is that academic activities consistently done in the home, with the full involvement of parents in the learning activities of children with learning disabilities integrated into mainstream school, contribute significantly to children's academic achievement.

To this end we developed a systematic program of academic family activities performed by students with learning disabilities together with their parents. The program was monitored via an assignment diary .

The research included 10 students enrolled in the second grade, namely 3 girls and 7 boys with learning disabilities, integrated into a mainstream school.

Following the initial specialist assessment conducted at the beginning of the school year, all subjects were diagnosed with learning disabilities. Their psychological development shared common features such as: medium or low learning potential, diffuse perception of learning material and auditory method of information reception, low level written language, phonemic hearing deficit, slow speech, lack of oral narrative strategy, short attention span. Their thinking was characterized by lack of planning behavior, difficulties in understanding the task, resulting in a slow uneven erratic work style with difficulties in meeting the deadlines.

These students came from different backgrounds, with different family circumstances and parents' educational level generally below average. Even educated parents do not have time and do not have specific ways to help their children.

Unfortunately, most parents do not keep a close connection with the school, and much perseverance is needed to persuade them to talk with the teacher or support teacher.

Therefore, we considered necessary to apply such a program for the parents to learn how to and actually help their children in turn.

To make it easier for parents to learn methods to support their children in the home, weekly meetings were proposed and conducted to discuss issues arising during the process and to find effective solutions. For these meetings, a discussion guide for parents was proposed, with the following topics:

- Promoting active learning;
- Encouraging reading;
- Encouraging children to be responsible and work independently;
- The importance of homework, monitoring homework and providing support and guidance on assignments;
- Providing emotional support;
- Monitoring children on TV or computer use.

The aim was to implement the guide for parents to be able to help and work with their children on their academic tasks at home. In this respect, weekly meetings with parents to discuss problems encountered from week to week and finding ways to overcome difficulties played an important role.

The instrument used was an *Assignment Diary*, which was filled on a daily basis. The diary was a notebook with six rubrics which are filled in by the teacher and/or support teacher at school and by the parents at home.

Figure 1. Assignment Diary

Date	Assignment	Child's Difficulties	Parent's difficulties	Suggestions 1	Suggestions 2

Parents filled in the date on which the assignment was done, the discipline and the related subject matter, any difficulties their child should encounter in carrying out the task, but also difficulties they had in supporting their child. The class teacher or support teacher would fill suggestions box 1 the day the task was assigned, providing clues on how parents could help their child learn. Suggestions box 2 was completed after the homework had been done and parents had noted the difficulties faced in achieving it by them and the child. This second suggestion box was aimed at giving feedback to the parents, providing them with general clues for doing the following assignment or even appreciation for their work.

The idea of such a log is not original, being taken from a guide for teachers: *School, family and community partnership* prepared by Godfrey Claff (G. Claff, 2007). However, its structure, and the monitoring of its completion was different: while the original diary was a simple notebook where homework was recorded and which was signed at each weekend by the parent and the class teacher to mark its completion, the diary we created is more interactive, involving parents through self-reflection on their ability to provide child support for academic tasks and on the real potential of the child.

Furthermore, the suggestion rubric was designed to facilitate parents' work, to cater to their needs regarding support for their children's assignments and various other learning activities.

The weekly meetings where the topics proposed for the *parents guide* were discussed, did not have a specific order of approach, being guided by the parents' needs and the difficulties they encountered in dealing with assignments during the respective week. During these meetings, the manner to fill in the diary was discussed, with parents suggesting their own approaches and ideas to fill in the rubrics based on positive and negative experiences.

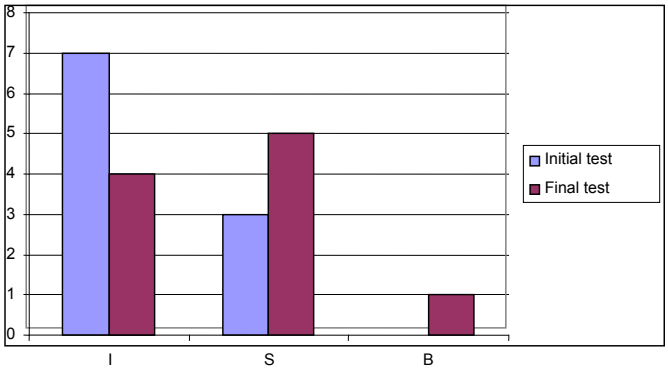
Children's academic achievements after a school semester varied greatly in accordance to family involvement. There were extremely different situations: four parents attended the meetings regularly and filled in the assignment diary on a daily basis; three parents attended only one meeting and filled in the diary only occasionally; finally, three parents attended about half of the meetings and filled in the diary on and off.

By comparing children's academic results at the end of the second semester with those obtained at the end of the first semester for the disciplines *Romanian language and literature* and *Mathematics*, a significant progress was noted in the

four children whose familes got involved regularly in the home-based learning activities and no change in the case of those whose parents got involved a little or not at all. A particular situation was recorded for a child whose parents did not help very much at home, but who made significant progress that could be attributed to his hard work and to the school contribution.

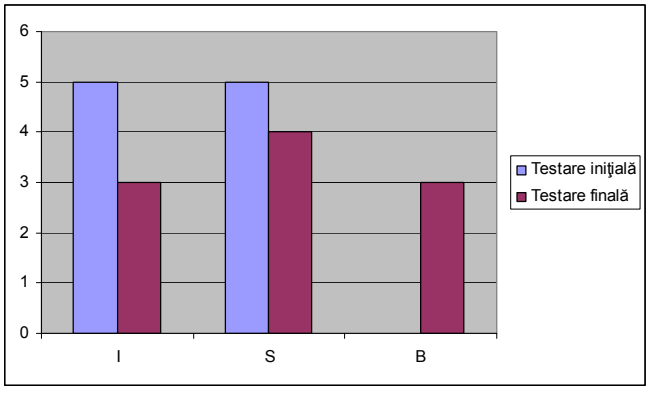
Consequently, by comparing with the initial test, results for *Romanian language and literature* show that only four pupils achieved academic progress, namely three progressed from I (insufficient/fail) to S (satisfactory/ pass) and one from S to B (good).

Figure 2. Comparative results of the initial and final tests for Romanian language and literature



The analysis of the comparative results for initial and final tests for Romanian language and literature shows a slight increase in academic achievements of the pupils who carried out learning activities at home, where partents got more involved.

Figure 3. Comparative results of the initial and final tests for Mathematics



The comparative analysis of the results for the initial and final tests for Mathematics show that five pupils progressed: three progressed from S (satisfactory/ pass) to B (good) and two from I (insufficient/fail) to S (satisfactory/pass). In this case, progress was also made by a pupil whose parents did not get involved in his learning, but was very diligent at school and had less learning difficulties in Mathematics. Analyzing the chart of the comparison between the results of the initial and final tests in math, school performance shows an increase greater than that recorded for Romanian language and literature, with three grades B, which is encouraging.

Mention should be made that the time interval dedicated to our psychological and pedagogical experiment was relatively short, but we intend to continue it next academic year by including parents of the new children from the support group (2^{nd} grade). We anticipate more significant progress, especially in the case of children who received support from their families during the experiment described above.

Conclusions

There are obviously differences between the knowledge of pupils engaged intellectually in the family environment, with supervised homework activities and support from their parents, playing different games and chatting with them and so on and the knowledge of pupils who do not perform any structured activity outside the school environment, do not attempt to do their homework, do not discuss with parents and are not supported by them.

Unfortunately, few parents were really receptive and eager to be actively involved in their children's education. These children recorded academic progress, their self-esteem and confidence increased while the perception of school improved, expressing particular enjoyment and satisfaction to perform so many interesting activities with their parents, including home assignments.

The other parents, whose children did not register any progress, were very little involved, always found excuses not to attend weekly meetings, forgot to fill in the *Assignment diary* or did not read at all the instructions of the support teacher regarding strategies and activities for doing the homework for the following day. Unfortunately, this was present mainly in the case of parents or grandparents who did not work and who should have had more time available for their child.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 27 – 34

WAYS OF CONDUCTING THE ACADEMIC SEMINAR

DANA JUCAN*

ABSTRACT. This study aims to identify the ways of conducting the seminars most commonly used in university, but also the ways of conducting the seminars with educational sciences. For this, a semi-structured interview was applied to students from the Faculty of Biology and of the Faculty of Psychology and Educational Sciences, Psychology Department, a total of 98 subjects. The interview included 10 questions about the ways of conducting the academic seminar. For illustration, there have been presented and analyzed the answers of five of the interview's questions. The analysis of the students' answers shows that interactive ways of conducting the seminars are most often used. Students think that these ways are useful because they lead to an easy assimilation of information, and also, to their comprehension.

Keywords: *the ways of conducting, the seminars, assimilation of information.*

ZUSAMMENFASSUNG. Diese Studie zielt darauf ab, die Durchführung Möglichkeiten von Seminare, die am häufigsten in der Universität verwendet werden, aber auch die Art und Weise der Durchführung von Seminaren im Bildungsbereich zu identifizieren. Dafür hat man ein semi-strukturiertes Interview den Studenten aus der Fakultät für Biologie und den Studenten aus der Fakultät für Psychologie und Erziehungswissenschaften, Abteilung Psychologie, insgesamt 98 Studenten, angewandt. Das Interview umfasste 10 Fragen über die Durchführung Möglichkeiten von Seminare in der Universität. Zur Veranschaulichung, wurden die Antworten von 5 Fragen des Interviews analysiert und vorgestellt. Die Analyse der Rückmeldungen von Studenten zeigt, dass am häufigsten verwendeten Durchführung Möglichkeiten die interaktive Durchführungen sind. Die Studenten schätzen als nützlich diese Möglichkeiten, weil diese auf eine einfache Verarbeitung und Verständnis von Informationen führen.

Schlüsselwörter: *Durchführungmöglichkeiten, Seminar, Interaktivität, Information Verständnis.*

Regarding university education, the curricular reform is primarily focused on the transition from a teaching-centred education to a learning-centred education. A teaching-centred education means a teaching focused on the student, on his own

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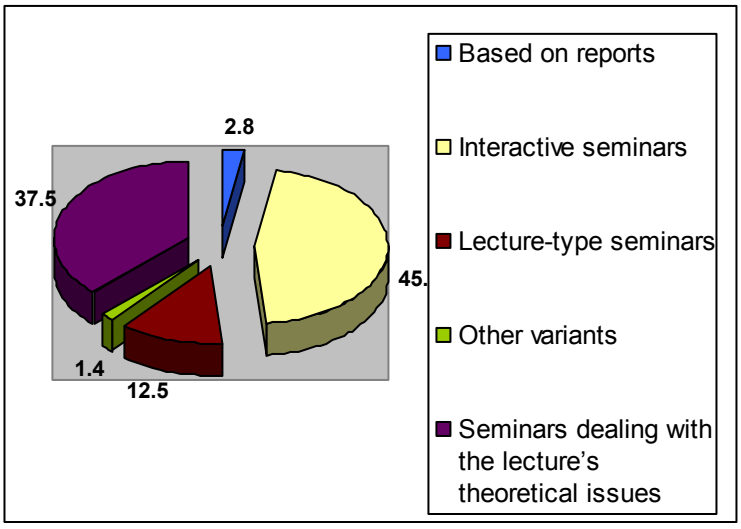
way of processing information, it implies changes in the teacher's role (he designs, he organizes and he monitors the learning situations), it involves redefining the educational objectives (more transparent, clearer and more realistically stated, more dynamic), changes in the teaching-learning-assessment strategies, a diversification of the forms of teaching's-learning's organization, and also curricular flexibility.

It is known that the main forms of teaching and learning organization at higher education generally are: the lecture, the seminar. Each of these established forms of organization involves the differentiated use of some teaching methods or strategies: conversation, relation, lecture, cooperative learning methods, methods of higher thinking skills' development, problem solving learning methods, therefore, the category of traditional methods and strategies, but also that of the modern ones. Selecting a certain strategy, respectively teaching methods, by the teaching staff depends on the content to be forwarded, on the students' education level, on the type of skills that we aim to form and develop in students. The teacher chooses thus, one or another form of organization of his educational activity, for the use of a certain strategy or teaching method, considering the limitations and benefits of each.

In this study we aim to identify the ways of conducting the seminars most often used in university, but also the ways of conducting the seminars with educational sciences. For this, we have applied a semi-structured interview to students from the Faculty of Biology and of the Faculty of Psychology and Educational Sciences, Psychology Department, a total of 98 subjects. The interview included 10 questions about the ways of conducting the academic seminar. For illustration, we present and analyze the answers to five questions interview.

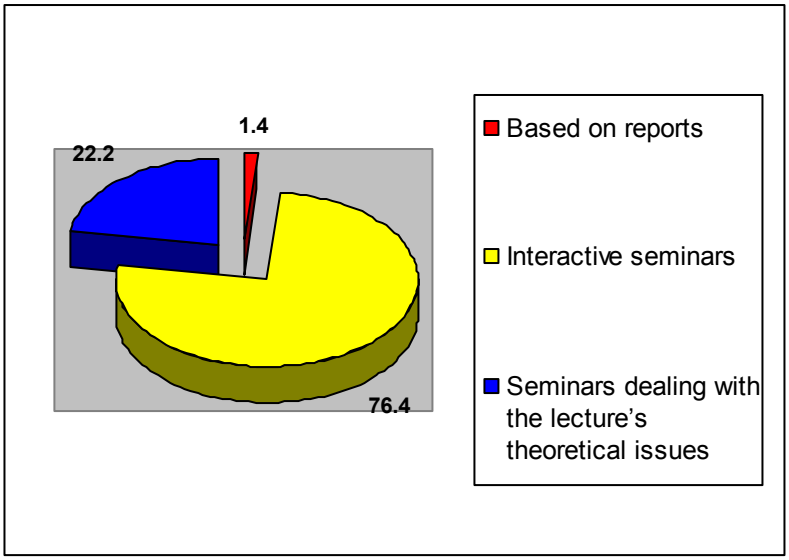
Question 1



Which are, in general, the ways of conducting the seminars in university?	Answers (%)
Interactive seminars	45,8
Seminars dealing with the lecture's theoretical issues	37,5
Lecture-type seminars	12,5
Based on reports	2,8
Other variants	1,4

Analyzing the answers given by students, we see that 45% of the respondents believe that in university prevail the interactive seminars and 37.5% the debate-type seminars, answers denoting that the traditional methods of conducting the seminars (paper type) have been abandoned and that the student-centred teaching is really promoted.

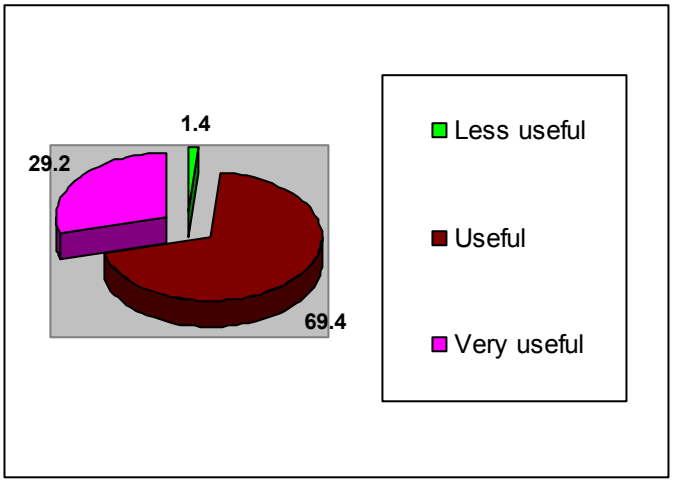
Question 2



Which are the ways of conducting the seminars on Pedagogy?	Answers (%)
Interactive seminars	76,4
Seminars dealing with the lecture's theoretical issues	22,2
Based on reports	1,4

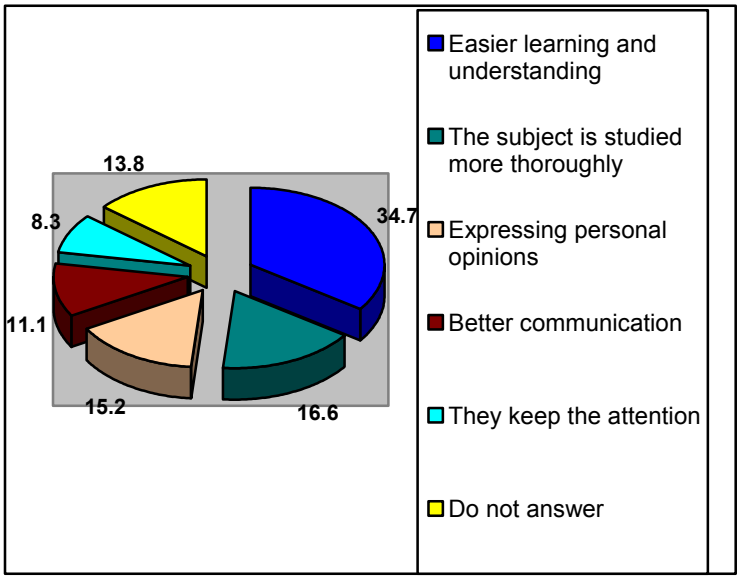
An encouraging aspect is that students think that the seminars on Pedagogy are interactive seminars (76.4%) and debate- type seminars (22.2%).

Question 3



Do you think that the way of conducting the seminars on Pedagogy, circled in the previous paragraph is:	Answers (%)
Useful	69,4
Very useful	29,2
Less useful	1,4

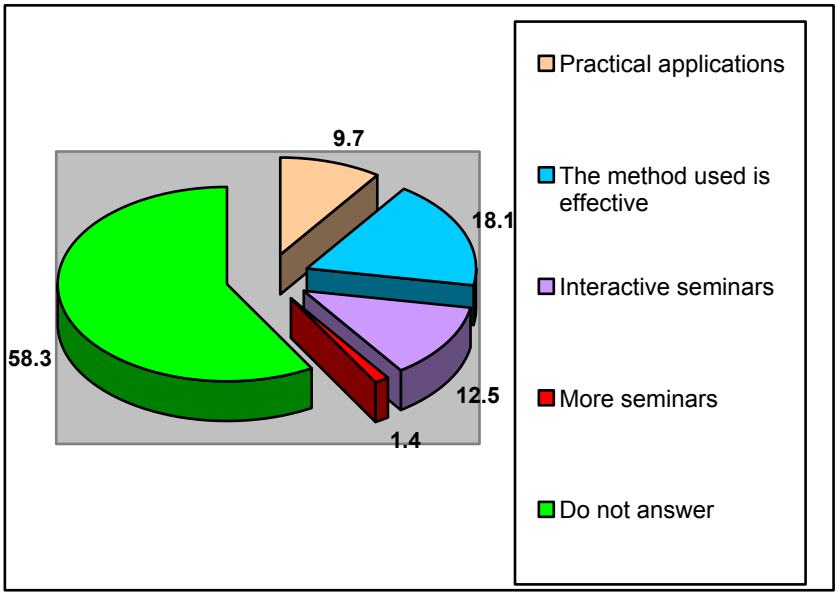
Question 4



We find that students see the interactive seminars as a useful and very useful way of conducting (69%, respectively 29.2%) the instructive-educative activity, because, this way, they understand more easily the information and retain the contents faster.

Explain your choice for the previous item	Answers (%)
Easier learning and understanding	34,7
The subject is studied more thoroughly	16,6
Expressing personal opinions	15,2
Do not answer	13,8
Better communication	11,1
They keep the attention	8,3

Question 5



Suggest another way of more effectively conducting the seminars on Pedagogy and argue your proposal	Answers (%)
Do not answer	58,3
The method used is effective	18,1
Interactive seminars	12,5
Practical applications	9,7
More seminars	1,4

We therefore plead for conducting lectures and seminars in which the students' activation to prevail.

The students' activation during seminars implies the information's individual seeking, their processing, comprehension and the individual generalization, the knowledge requires construction with emphasis on skills, competencies, and especially on procedures and methods. There dominates the reflecting on self cognitive experiences, on personal processing of data and information, on individual understanding, on own construction of knowledge, on meta-cognition in self-regulation of intellectual processes. In the end, the newly formed schemes are internal cognitive structures that will incorporate the new experiences. The activation requires the student to independently articulate, encode and decode the knowledge's new meanings and significances. The student develops activities of observation, of critical analysis, of data processing, of interpretation, of hypothesis formulation, of research, of structuring, and then of design and development of the new knowledge and information. Learning is based on the already existing cognitive experience, updated by the strategies of intellectual activity.

The seminar teacher's role in the students' activation is that of a tutor, a facilitator, a "coach", he facilitates students the learning in their own style, providing models, differentiated and personalized support and guidance. For the students' intellectual stimulation, the assistant professor asks questions, gives time to think for seeking the answers, he observes, he exercises, collaborate, guides, he initiates the debates, the dialogues, and the cooperation among students. He applies a democratic management in the group of students, he organizes the learning tasks, encourages the students in choosing the strategies of intellectual activity, he stimulates them to engage in self searches, to make judgments, to ask questions. The seminar teacher organizes the intellectual activity, he communicates with the students, he stimulates them and he permanently relates to their interests.

For the seminar activities' successful conducting, we thus, strongly plead for the use of activating training strategies aimed at the students' active intellectual participation in teaching - learning and which to support the formation of effective skills of intellectual activity (problem solving, critical thinking, active reading). The competences generally concerned, in the seminar, by virtue of an intellectual activation are: the students' gain of extensive knowledge, and especially the development of the capacity for understanding the ideas conveyed at the lecture, the development of the students' capacity for organization and planning, of their capacity for synthesis and abstraction, of their capacity for problem solving, of their critical thinking skills, of the interpersonal skills, of their skills to work in groups, of the ability to apply knowledge in practice, of the ability to adapt to new situations, the development of the students' ability to think and act independently, of their initiative, etc.

The seminar teacher gives students the opportunity to acquire information, to form and develop skills in a favourable context, promoting an open, flexible, positive and responsive attitude. In order to stimulate the students' intellectual

activation and their creativity, the teacher himself must have a positive attitude and behaviour in this respect. "Interactive and creative training" resizes the teacher's roles and hypostasis. Their inventory is done by Muşata Bocoş (2002), the teacher is:

• An educator who does not require scientific information, but who "builds learning devices", practicing a differentiated and individualized pedagogy;

• A designer, a tutor, a manager, a moderator, an organizer and a manager of content, activities and formation experiences;

• A learning process' mediator in a heuristic framework;

• A facilitator of learning and self-formation;

• A learning adviser;

• A partner in an interactive educational relationship;

• A coordinator of activities;

• An animator, a catalyst and an activator of the formation activity, of communication, of interactions and exchanges between individuals;

• A scenographer, preparing the scenery for conducting the effective learning;

• An actor of instructive-educative approaches;

• A thoughtful strategist to help building knowledge through permanent restructuring;

• Reflexive during, before and after the educational action, promoting reflexive thinking and reflexive teaching;

• A co-evaluator of the learning process and product;

Intellectual activation occurs when the student "really intervenes in teaching and alters its variables, its proper parameters: he endeavours personal reflection, thought, he carries out mental and practical search and research actions, rediscovers new truths, rebuilds and resizes new knowledge, being aware that external influences and messages always act through internal conditions" (Muşata Bocoş, 2002, p 64).

The active and creative student displays boldness for a product's critical appreciation, independence for the problems' approach and analysis, counter-argument spirit, freedom in general behavioural manifestation.

The active and creative student is characterized by spirit of independence at work, long tracks thinking, without cognitive barriers, showing a strong and unusual tendency to explore and create.

We also propose some action guidelines for the students' activation within the university seminar:

- Students' continuous guidance in preparing some plans of ideas and summaries of the read texts and works,
- Students' initiation in the preparation and presentation of essays, reports and communications - as effective ways for them to familiarize with the requirements of creative activity,
- Enabling students with elaboration and presentation methods and techniques of individual and group projects, including the project management,

- Students' initiation in the scientific research methodology in terms of standards imposed by the Bologna Process and by the EU,
- Students' initiation in the use of auxiliary tools to enrich knowledge and to solve learning tasks (dictionaries, encyclopaedias, chrestomathies, media information, etc.),
- Compliance with a reasonable daily regimen of study and recreation,

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INVESTIGATING REPRESENTATIONS, OPINIONS AND ATTITUDES STUDENTS ON THE NATURAL ENVIRONMENT

CARMEN MIHAELA OLTEANU*

ABSTRACT. This paper provides a theoretical, methodological and applicative, integrative nature, starting from a comprehensive summary of relevant studies on environmental social representations, opinions and attitudes toward the natural environment.

In this research we started from the idea that environmental attitudes can be formed by *environmental ecological education*, which aims to achieve three major objectives are closely interrelated, that targets cognitive, affective and practical attitude and action. This is done gradually through the educational process and school and extracurricular activities with specific environmental content.

The study refers to highlight the spectrum of representations, opinions and attitudes of students green. It had, as a first objective assessment of ***NEP Scale*** (New Environmental Paradigm Scale) fidelity by calculating *coefficient Alpha* (α) Cronbach and found Alpha Cronbach global index of NEP Scale, the 15 items *is acceptable*, *is over 0.75* and statistical analysis showed a satisfactory internal consistency of subscales / items of the NEP.

The second objective of the study aimed at highlighting the relationship between the representations, opinions and attitudes about the natural environment and locus of control. The research hypothesis makes the prediction that the level of consciousness and ecological values, identified by social representations, pro-environmental views and attitudes of students is high. The assumption that, *in an increased level of pro-environmental views and attitudes students have a sense of internal control more frequently than students* was confirmed.

Keywords: *social representations, opinions, attitudes, pro-environmental attitudes, locul of control, environmental behavior, New Ecological Paradigm.*

1. Introduction

Different authors in the field of *Social Psychology* and *Environmental Psychology* have focused on social actors intent to act, which is being faced with a multitude of social dilemmas such as the group's social norms, peer judgments, cultural norms, all constituting into genuine social obstacles, not loosing sight the influence of others, or social desirability phenomenon of imitation (Preda, 1987; Moser, 2009; Steg, Sievers, 2000; Vaske, Kobrin, 2001).

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In addition to environmental knowledge were destre vehicle and other factors with potential positive impact on environmentally responsible behavior. Hwang, Kim and Jeng (2000) and Vaske and Kobrin (2001) did the classification of these factors into three categories: *affective factors, cognitive and situational*. *Cognitive factors* relate to the individual's awareness on environmental and ecological knowledge, including knowledge regarding action strategies. *Affective factors* relate to emotions and feelings associated with environmental issues and environmental phenomena and include attitudes, instead of control, sense of personal responsibility, and others. There are evoked personality factors related conditions such as intention to act, personality traits, rewards envisioned, individual priorities, habits. Finally, *situational factors* are related to the position of an individual or group constraints include economic and demographic (age, income, occupation, education, place of origin and resident etc.), sociocultural and political context, the pressure of social norms, opportunities to see environmental problems live and act (Abric, J.-C., 1994). Independent of situation, all these factors can have a stimulating or inhibitory effect on cognitive and affective factors that encourage environmentally responsible behavior (Caillaud, 2010).

Locus of control is another variable that may impact on environmentally responsible behavior (Allen, Ferrand, 1999).

2. The hypotheses of the research

The specific hypotheses were as follows: a) social representations related to the natural ecological influence opinions and attitudes, b) people have opinions and attitudes internaliste green with an index higher frequency than those externaliste, c) score obtained from the NEP items highlighting the views and pro-environmental attitudes positively correlated with internalism (I) highlighted the scale Levenson, d) score obtained from the NEP items highlighting non-environmental opinions and positively correlated with externalism (feeling controlled by others - (P) or chance (s) - highlighted the scale Levenson).

3. The instruments of investigation

a) NEP (New Environmental Paradigm Scale) - Dunlap, R.E., Van Liere, K.D., Merling, A.G., Jones, R.E. (2000).

NEP scale allows a quantitative and qualitative analysis of the results on attitudes based on new ecological paradigm, connected to the basic principles of sustainable design and sustainable development through individual and group behaviors pro-environment and the outcome of the social responsibility industrial enterprises and, in general, economic institutions (Dunlap, Van Liere, 1978).

NEP scale include the following (Dunlap, Van Liere, Merling, Jones, (2000): *Anti-exceptionalism* (assuming human people dislike this idea one based on the view man is above the laws of nature), *Anti-anthropocentricism* (rejecting the idea

that the nature exist only to serve interests and human needs, so it does not have any eigenvalue), *Growth restriction* (concern about issues of ethics and natural resources by limiting human interference and limiting population growth ability not to sustainability of the land of), *Natural balance* (affirming a natural balance which human intervention is threatening) *Ecological crisis* (increased human dependence on natural resources and the disastrous consequences of human interference with nature).

Alpha Cronbach global index of NEP Scale, the 15 items *is acceptable*, *is over 0.75* and statistical analysis showed a satisfactory internal consistency of subscales / items of the NEP.

b) Levenson Control Scale *("The Internal, Powerful Other and Chance Scales" (apud* Dubois, N. (1984).

Levenson scale (CPI) is a self-assessment questionnaire developed by Levenson in 1972. IPC evaluates that person's causal relationship established between obtaining a certain appreciation / reinforcements and their conduct, that what Rotter (1966) conceptualized in terms of internal control versus external control. Scale I (internal control) indicate whether the person establishes links between its behavior and events. P and S scales assessing the person's sense of determination from the outside, other people - (P) or chance (s).

4. The participants of the research:

To investigate the spectrum of social representations, opinions and attitudes, and paradigm environmental determinants of their scale were applied NEP (New Environmental Paradigm) and Levenson control scale *("The Internal, Powerful Other and Chance Scales" - IPC)* at a batch of ***210 students aged from 18 to 30 years,*** of which 75.5% female subjects and 24.5%, the masculine gender.

5. Results

The spectrum analysis and interpretation of representations, opinions and attitudes of students shows that the average green overall ***NEP scale*** scores obtained by students is 3.93, maximum score of 5 points. Therefore, *the spectrum of representations, pro-environmental views and attitudes of the participants in this study is average.*

Analysis of the subscales highlights some aspects interesting. At the subscale *Anti-exceptionalism*, the idea of human exceptionality is rejected, one based on the view of which the man is above the laws of nature, yielding an average score of 4.19. The idea of "human exceptionalism" dominant position of supporting human natural world, on the one hand, and the economy of nature, on the other hand, is rejected by the paradigm students investigated.

The Anti-anthropocentrism subscale the students reluctant the idea of dominance over nature, giving an average score of 3.88, proving that they have internalized social representations ecological and opinions are in line with New Ecological Paradigm.

The growth restriction subscale students get an average score of 3.64, which means that young people tend to adhere to investigate New Ecological Paradigm, being concerned with ethical issues and natural resources by limiting human interference and limiting growth is not the land of sustainability capacity.

The natural balance subscale students obtained an average score of 4.08, being aware of the fragile ecological balance under the irrational exploitation of natural resources and pollution. Being aware of the negative consequences of human intrusion and vulnerability natural world, students expressed their views that reject the dominant socio-economic vision of western industrialized countries, according natural balance would be powerful enough to make front modern industry.

An average score of 4.18 was obtained from subscale *ecological crisis*, showing that students are aware of the possibility of investigating ecological crisis due to the disastrous consequences of human interference with nature. New ecological paradigm human dependence on natural resources and insists their rational exploitation, so that man should live in harmony with the natural environment.

The hypothesis from which we started this investigation was confirmed in that the environmental awareness and ecological values is high, as evidenced by relatively high percentages (80%) of subjects investigated the expression of total or partial agreement on opinions and attitudes revealed by the new green ecological paradigm (NEP), aimed at pro-environmental and social representations.

The analysis of data obtained by applying *control Scale Levenson ("The Internal, Powerful Other and Chance Scales - IPC") and NEP Scale,* indicate that participants with common views, pro-environmental attitudes and behaviors relevant NEP scale, is characterized largely by a sense of *internal control* of events and situations, such as environmental problems.

Instead, people who show less frequently and / or fewer views, pro-environmental attitudes and behaviors are characterized by feeling greater control external events and situations, such as environmental problems. These research participants obtained higher scores on *scale P (control by others)* and the scale and the *locus of control* (feeling of chance intervention).

Table I.

Correlations (r) between pro-environmental views and attitudes and "locus of control"

	Locus of internal control ("I")	**Locus of control extern "P" (control through other person)**	**Locus of external control "S" (belief in chance)**
Opinions / attitudes ecological pro high index of expression (5, 4)	**.75 ****	**-.51****	**- .47 ***
Opinions / attitudes ecological pro low expression index (1, 2)	**-.51****	**.69 ****	**.65 ****

*** p<.002; ** p<.001**

From the table above that there is positive correlation, highly significant (at p <0.001) between the opinions / attitudes pro-environment index and internal control over expression. However, between opinions / attitudes pro-environment index decreased expression and internal control correlations are negative. So, highly significant differences (at threshold <0.001) between students participating in the study expressed common views, pro-environmental attitudes and behaviors in relation to those who expressed less often and / or fewer views, pro-environmental attitudes and behaviors in the locus of control, i.e. control of how different events or situations, such as environmental problems.

Next, there were analyzed the relationship between the opinions and attitudes of pro-environment and feeling female control subjects compared with male subjects.

Based on Pearson Chi-Square statistical test ($\chi 2$), Kendall and Gamma, one can say that there are significant differences (p <0.005) effect on sense of control over environmental opinions and attitudes for female students with a greater percentage of their frequency as average, compared with students who have a lower percentage of their average frequency. So, it follows that there is a strong association between the percentage of opinions and attitudes expressed by students and ecological sense internal or external control.

In case of a level of pro-environmental attitudes, opinions and values higher than average, students have a sense of internal control in a percentage of 65.7% and feeling external control of 50%. With a below average level of pro-environmental views and attitudes students have a sense of internal control at a rate of 34.3% and feeling external control rate of 50.0%.

That both students and students often have a sense of internal control, but is characterized by external control, Astel that other people believe in intervention or chance to solve environmental problems. It may be noted that if students are not statistically significant differences in the association level and pro-environmental views (above the average or below average) with the sense control ("locus of control").

Table II.

***Extent of the opinions and attitudes of pro-ecological control students feeling* Environmental-Control (males gender Students)**

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Kendall's tau-b	.157	.109	1.441	.150
	Kendall's tau-c	.154	.107	1.441	.150
	Gamma	.314	.208	1.441	.150
N of Valid Cases		81			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Table III.

Extent of the opinions and attitudes of pro-ecological control students feeling
Ecologic– Control (female genderStudents)

Symmetric Measures

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Ordinal by Ordinal	Kendall's tau-b	.224	.079	2.837	.005
	Kendall's tau-c	.218	.077	2.837	.005
	Gamma	.435	.137	2.837	.005
N of Valid Cases		155			

a Not assuming the null hypothesis.
b Using the asymptotic standard error assuming the null hypothesis.

As it follows from the data given that students (female) and students (males) have an "internal locus of control" (feeling internal control), their environmental views and above average values are expressed in a percentage higher relative. Thus, the internal control of students is 65.7% and only 51 students, 4%.

6. Discussion and conclusions

Relative to environmental issues, *locus of control* is defined as a belief that the individual is that his actions can / can not improve the environmental situation. Thus, instead of *internal control* reflects a person's belief that his actions will be beneficial and help to change a situation, while *external control* location refers to the belief that the situation changes occur randomly or because of interference of other more potent agents, more competent, better educated, such as governments or large companies. The consequence of ground control is that a person with *internal control* will engage in specific actions while a person with *external control* will be less inclined to participate in such actions. Many studies have focused on the development of *internal control* instead, considered by many researchers as an important variable that strongly influences the intention to act, the latter being an indicator of environmentally responsible behavior (Allen, Ferrand, 1999; Kilbourne, Beckmenn, Lewis, Van Dam, 2001).

The assumption that, *in an increased level of pro-environmental views and attitudes students have a sense of internal control more frequently than students* was confirmed.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 43 – 52

PERCEIVED STRESS IN THE CASE OF HIGH-SCHOOL PUPILS AND THEIR COPING STRATEGIES

VASILE RADU PREDA*

ABSTRACT. This article purpose is to highlight the stress factors, anxiety, self-esteem and coping strategies in adolescence. The article is focused to identify; a) the stressors perceived by female and male high-school pupils; b) the pupils' level of perceived stress and (c) the stress management strategies employed by high-school pupils. The data analysis with S.P.S.S. 13 identify some significant differences between male and female 11th and 12th grade pupils regarding the assessment of stressors at school; some significant differences between male and female 11th and 12th grade pupils regarding the anxiety levels, regarding the self-esteem and some significant differences regarding the use of certain coping strategies by male and female high-school pupils.

Keywords: *stress factors, stressors perceived, anxiety, self-esteem, coping strategies, management strategies.*

1. Stress factors, anxiety, self-esteem and coping strategies on adolescence

In adolescence a great number of stress factors accumulate, these being seen as normative, and reaching the highest intensity during puberty. Many of these are actually real tasks that have an impact upon the teenagers' development, tasks that they must carry out in order to be granted the status of responsible adults. Here are some of these factors: acceptance of corporal modifications, acknowledgement of the social importance of sex roles, establishment of relations with other young people, attendance of school classes and continuation of their studies in preparation of a career, achievement of independence and personal freedom, especially financial autonomy, preparation for family life, etc.

Research shows that a change in living conditions can bring about an accumulation of minor and major events that may be construed as stressful. If the teenager cannot cope with the stressors *his/her self-esteem could lower and anxiety might appear* (Simmons et al., 1987).

A survey conducted by Seiffge-Krenke (1994, p.177-178) on 1.028 German teenagers aged 12 to 19, showed that they seem capable of dealing with stressors and of competently solving problems encountered in all the areas of development. *Functional coping* clearly dominates, dysfunctional coping being only rarely employed

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and solely for certain kinds of problems. These results point out that self-control and competence are the dominant characteristics, regardless of the kinds of problems that teenagers face.

The most striking differences for active coping and for self-reliance are encountered when *comparing the sexes*. One of the main differences refers to *the use of social resources*. Thus, as they mature, regardless of the nature of the problems, girls seek out advice, counseling, help in order to get comfort but also understanding from others, much more often than boys do. No matter what the problem might be, girls discuss it openly almost immediately with significant others whom they consider important and, generally, they are likely to solve the problem together with the other individual(s) concerned.

Teenagers most often decide to deal with **parent-related problems** directly, but they are quite frequently tempted to avoid the issue by throwing a tantrum, as a red herring. In such situations they look for comfort among peers who might have had similar problems, and discuss with them possible solutions.

It is obvious that when it comes to **school-related problems** teenagers choose more and more frequently, as they grow up, to reflect on the possible solutions. Once more mature, teenagers most often resort to internal coping – analyzing the problem in search for a solution, - being even open to compromise. (McCrae, 1982). Most of the teenagers in all the age groups, although to different degrees and with various frequencies, discuss some school-related problems with their parents. However, they also resort very often to emotional reactions, manifested in anger and aggression.

Teenagers rarely discuss with their parents and with other adults **the problems** they might have **with their friends**, choosing to deal; directly with the one(s) involved. This tendency is even more dominant in the case of ***sentimental problems***, which are usually discussed directly with the partner, in an attempt to identify the best solutions, being obvious that each of the two must be willing to communicate, to accept the influence of the other, so as to reach an agreement.

Regarding the use of social resources, gender differences are especially clear, with girls resorting to social support more often than boys, in the case of school issues, parent-related problems and psychological quandaries involving their very person.

2. Research methodology

2.1. Research objectives

a) To identify the stressors perceived by female and male high-school pupils

b) To investigate pupils' level of perceived stress

c) The factorial analysis of the *Adolescent Coping Orientation for Problem Experiences* questionnaire (B. Plancherel, R. Nunnez, M. Bolognini, C. Leidi and W. Bettschart, 1992).

d) To identify the stress management strategies employed by high-school pupils.

2.2. Hypotheses

a) There are some significant differences between male and female 11th and 12th grade pupils regarding the assessment of stressors at school;

b) There are some significant differences between 11th and 12th grade pupils regarding the assessment of the impact that the stressors at school might have upon perceived stress;

c) There are some significant differences between male and female 11th and 12th grade pupils regarding the anxiety levels;

d) There are some significant differences between 11th and 12th grade pupils regarding self-esteem;

e) There are some significant differences regarding the use of certain coping strategies by male and female high-school pupils.

2.3. Participants

217 pupils from Cluj-Napoca, of whom:

- 105 pupils in the 11th grade (60 girls and 45 boys, of mean age 15 years and 3 months).
- 112 pupils in the 12th grade (62 girls and 50 boys, of mean age 17 years and 5 months).

Table I.

The participants of study

Grade / Gender	Number	Mean age (standard deviation)
Girls – 11th grade	60	15.2 (0.7)
Boys – 11th grade	45	15.4 (0.6)
Girls – 12th grade	62	17.4 (0.5)
Boys – 12th grade	50	17.6 (0.4)

The research was carried out in the 2007-2008 and in the 2008-2009 school years, during the second semester – the months of February through March.

2.4. Instruments of research:

a) The questionnaire regarding pupil stressors – which we have designed.

b) The *Perceived Stress Scale – PSS,* elaborated by Cohen, Kamarack and Mermelstein, 1983) – translated and adapted.

c) The Spielberger Anxiety Inventory - *State/Trait Anxiety Inventory (STAI)* – translated and adapted.

d) The Coopersmith Self-Esteem Inventory – translated and adapted.

e) The A-COPE Questionnaire (translated into Romanian and adapted after The Adolescent Coping Orientation for Problem Experiences (Plancherel, Nunnez, Bolognini, Leidi and Bettschart, 1992).

3. The analysis of the data regarding perceived stress and this effects on high-school pupils

3.1. Perceived stressors in the case of 11th grade pupils as compared to 12th grade pupils

Data analysis showed the existence of great differences between the percentage of affirmative answers regarding *perceived stressors* in the case of 11th grade pupils as compared to 12th grade pupils at items referring to:

a) the necessity to study more intensively (stressor perceived by 67.8 % of the 12th grade pupils as compared to 52.2 % of the 11th grade pupils);

b) the amount of work to be done at home for homework and class preparation (stressor perceived by 54.4 % of the 12th grade pupils as compared to 30.4 % of the 11th grade pupils);

c) a much too busy schedule (stressor perceived by 61.0 % of the 11th grade pupils as compared to 68.6% of the 12th grade pupils);

d) the *assessment and grading of knowledge and skills* (stressor perceived by 30.4 % of the 11th grade pupils as compared to 22.3 % of the 12th grade pupils);

e) the assessment *and grading of knowledge and skills* (stressor perceived by 23.8 % of the 11th grade pupils as compared to 16.9 % of the 12th grade pupils).

Thus, the stressors perceived most frequently and more intensely by pupils are those related to study tasks, as well as to oral and written assessment, especially since the curriculum and the schedules are overloaded, requiring more intensive study. 12th grade pupils, who also have to prepare for the leaving examination, perceive to a greater extent this stress caused by *the need to study more intensively* and that due to *the amount of work to be done at home for homework and class preparation*. In some cases, the effects of these stressors are intensified by the extremely high expectations, sometimes even exaggerated, on the part of teachers and parents.

With the exception of pupils' opinions on their parents expectations concerning their results at school, where there are insignificant differences (p=0.10), there are highly significant differences between the opinions of 11th grade pupils and those of 12th grade pupils in the case of the other major stressors regarding school activities.

By using the *Perceived Stress Scale* we studied and compared the scores pertaining to **the frequency of perceived stress in the case of 11th and 12th grade pupils**. The highest score possible in the case of perceived stress is 70.

Data analysis shows that ***the hypothesis regarding the existence of differences regarding perceived stressors in the case of 11th grade pupils as compared to 12th grade pupils has been confirmed.***

Table II.

The significance of the difference between the mean scores of perceived stress in the case of 11th and 12th grade pupils

Perceived score stress (medium and above-medium level) for male 11th graders (N=45)	**Perceived score stress (medium and above-medium level) for male 12th graders (N=50)**	Test **t** **(p)**
m = 29.87 **σ = 2.25**	**m = 35.70** **σ = 2.50**	**t = 11.9639** **p <0.01**
Perceived score stress (medium and above-medium level) for female 11th graders (N=60)	**Perceived score stress (medium and above-medium level) for female 12th graders (N=62)**	Test **t** **(p)**
m = 30.75 **σ = 1.35**	**m = 41.40** **σ = 2.35**	**t = 30.8160** **p <0.01**

The table above shows that in the case of 11th graders and especially in the case of 12th graders there are highly significant differences between male and female pupils regarding perceived stress frequency.

We identified highly significant differences (at $p<0.01$) between the mean scores of stress perceived by 11th and 12th graders, both in males and in females. There are significant differences between the scores of stress perceived by 11th and 12th graders, as well as between the scores of stress perceived by males as compared to those perceived by females. In both cases female shave higher scores than males, the frequency and the intensity of stress being higher in females than in males.

High-school students perceive stress quite often, with a frequency of 3 up to 5 depending on the questionnaire items. The scores for medium and above-medium levels of perceived stress are higher in 12th graders, as they also need to prepare for the school leaving examination.

We must add that the tensions regarding the possible physical and psychological exhaustion of pupils, especially emotional exhaustion, at such times as those of testing knowledge and competencies, can cause **a state of anxiety and diminish their feeling of self-efficacy**. Thus, perceived stress in high-school students can determine an increase in their anxiety-state.

Our data show that even though in the case of female pupils the mean ***anxiety as trait*** is a little higher than in male pupils, there are actually no statistically significant differences between female and male 11th graders, nor between female and male 12th graders in what concerns this form of anxiety.

Of great interest are also the data that we obtained in what concerns female and male high-school pupils' **anxiety-state**. The table below shows that even though female 9th graders display a mean of anxiety-state a little higher than that of male 9th graders, there are no statistically significant differences between males and females in this respect.

Table III.

Comparing STAI – state scores obtained in the case of 9th graders

STAI – state scores (anxiety as state)	**Mean**	**Standard deviation**	Test **t** **p**
Male 9th graders N=45	**36.50**	**9.8**	**t=1.0394**
Female 9th graders N=60	**38.50**	**9.7**	**p=0.05 (insignificant difference)**

Data analysis shows that even though the mean scores in females are a bit higher, there still are no statistically significant differences, neither regarding anxiety as state, nor anxiety as trait.

Table IV.

Comparing STAI – state scores obtained in the case of 9th graders

STAI – state scores (anxiety as state)	**Mean**	**Standard deviation**	Test **t** **p**
Male 12th graders N = 50	**37.50**	**9.8**	**t=0.9395**
Female 12th graders N = 62	**39.25**	**9.8**	**p=0.05 (insignificant difference)**

In both male and female 9th and 12th graders ***the anxiety as state level is higher than that of anxiety as trait***, this being the result of everyday stressors, both situational and school-related. Although both 9th and 12th grade female pupils display a mean score of **anxiety-state** a bit higher than the respective mean score in the case of males, there are no statistically significant differences between male and female pupils in this respect.

As for self-esteem, our investigations pointed out that there are highly significant statistical differences ($p<0.005$) between the scores obtained by male 9th graders and female 9th graders regarding general self-esteem and social self-esteem (with regard to peers and friends, etc.). Male pupils got higher scores, which point to a higher level of self-esteem than that of females.

The table above shows that there are differences between the mean scores obtained by male and, respectively female 9th graders, as well as between those obtained by male and, respectively, female 12th graders regarding *self-esteem (general self-esteem, family-related self-esteem and school-related self-esteem)*.

Table V.

High-school pupils' self-esteem function of the gender and class variables

Mean scores and coefficients regarding self-esteem per participant samples	Male 9th graders (N= 45)	Female 9th graders (N=60)	Male 12th graders (N= 50)	Female 12th graders (N= 62)
General self-esteem	20.17 σ =2.29	18.62 σ =2.15	21.00 σ =2.54	19.50 σ =2.21
Social self-esteem (with regard to peers and friends, etc.)	6.07 σ = 0.55	5.67 σ =0.35	6.00 σ =0.52	5.86 σ =0.48
Family-related self-esteem	6.25 σ =0.67	6.12 σ =0.54	5.50 σ =0.37	6.48 σ =0.73
School-related self-esteem	4.86 σ =0.24	4.82 σ =0.23	5.00 σ =0.28	5.00 σ =0.29
TOTAL	**37.35**	**35.23**	**37.50**	**36.84**

The analysis of the data concerning the comparison between the scores obtained by female 9th graders and 12th graders points to the fact that all the self-esteem coefficients for female 12th graders are higher than those for female 9th graders.

There are significant differences at $p < 0.05$ between the scores obtained by male 9th graders and 12th graders regarding general and school-related self-esteem, the latter having higher levels of self-esteem. In what concerns social self-esteem (with regard to peer relations and friendships, etc.) there are no statistically significant differences.

There are no statistically significant differences between the results obtained from male versus female 12th graders regarding school-related and social self-esteem.

The analysis of the data concerning the scores of 9th graders versus those of 12th graders shows that there are statistically significant differences ($p<0.005$) *only in what concerns family-related self-esteem*, the former having higher self-esteem than the latter.

3.2. The coping strategies used by high-school pupils

In what regards the stress management strategies used by *high-school male and female pupils,* our data show that in order to solve various problems and cope with stressful situations pupils employ more types of strategies, depending on the specificity of each problem or situation that they have to face at school or elsewhere. Thus, the answers that pupils gave to questionnaire items point to the use of both avoidance strategies and active strategies, so problem-centered stress management strategies are used along with emotional coping.

On the basis of the results obtained by factorial analysis we have emphasized the way in which pupils choose the various stress management and/or problem-solving strategies, specifying the high-school pupils' manner of response to stressful situations.

Table VI.

The significance of the differences between the mean scores obtained by male and female high-school pupils regarding the coping strategies that correspond to the six factors

Factors	Males (N=95) Mean	Males Standard deviation	Females (N=112) Mean	Females Standard deviation	Test t p
F 1 – humour and fun	3.24	1.13	2.69	1.12	**t=3.5037 p<0.005**
F 2 – substance use/ problem avoidance	2.86	1.21	2.87	1.18	t=0.0599 p = 0.05
F 3 – negative feelings	2.41	1.08	2.47	1.04	t= 0.4051 p =0.05
F 4 – social relations/use of social support	2.84	1.15	3.30	1.13	**t=2.8907 p<0.005**
F 5 – involvement in activities	3.42	1.18	3.45	1.05	t=0.1917 p=0.05
F 6 – use of family support	2.82	1.11	2.81	1.15	t=0.0635 p=0.05

The data that we obtained show that the favorite response to problem situations is *the involvement in activities*, the mean score for males being 3.42 and for females Consequently, both male and female high-school pupils choose active coping strategies, rational strategies of solving problem situations, in other words they prefer cognitive coping strategies.

The differences between male and female pupils are present when it comes to other stress management strategies. Thus, we noticed that male pupils focus more that female pupils on entertainment strategies, humor and fun (mean score = 3.24), while girls use more often than boys social relations, looking for social support (mean score = 3.30). However, both boys and girls look for family support very seldom when dealing with stressful problems, which can be explained by the age-specific psycho-social features, teenagers attempting to distance themselves for the authority of the family.

Female and male high-school students resort almost equally to avoidance strategies, the mean scores for "substance use/problem avoidance" being very close (2.86 for boys and 2.87 for girls). Consequently, in some problem situations high-school pupils resort to avoidance strategies, which, however, fail to solve their problems.

Both boys and girls resort to emotion-centered coping strategies, choosing to express their negative emotions and feelings to approximately the same extent (m = 2.41 for boys and m = 2.47 for girls).

Data analysis shows that **the hypothesis** according to which *the coping strategies used by female pupils are relatively different from those used by male pupils* **has been partially confirmed**, statistically significant differences being obtained only in the case of the following factors: "humor/fun" and "social relations/use of social support".

Our data show that, generally, the interviewed high-school pupils have insufficient trust in some of their teachers, school counselors or priests, in what concerns the support these might offer in order to help them solve stressful situations. Taking into account these data, *we believe that teachers and, especially, school counselors should be more involved in the activities offering support to pupils, so that these may find solutions for the stressful situations confronting them. But, at the same time, we must state that some school counselors have to take care of more high-schools, being assigned huge numbers of pupils, which can explain the situation outlined above.*

The way in which teachers and pupils deal with stress constitutes an important aspect both for their psychological adjustment and for the prevention of undesirable consequences that might affect school life.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 53 – 68

PSYCHOLOGICAL FACTORS IN FOREIGN POLICY DECISION-MAKING (I): DECISION-MAKING MODELS

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ABSTRACT. The psychology of decision-making has been gaining more attention than before. It is growing rapidly. Three main perspectives of the psychology of decision making include the standpoint of cognitive psychology, the influence of social psychology and the viewpoint of neuropsychology. This influence is obvious in the field on international relations, especially the foreign policy decision making. This study represents the first part in which we will present the models of decision-making in international relations: rational actor, organizational politics, bureaucratic politics, cybernetic model, prospect theory and poliheuristic model. The example on which we will demonstrate de models of foreign policy decision- making is the decision of not invading Irak from 1991.

Keywords: *decision-making process, Rational Actor Model, Organizational Politics Model, Bureaucratic Politics Model.*

ZUSAMMENFASSUNG. Die Psychologie des Entscheidungstreffens bekommt immer mehr Aufmerksamkeit als früher und wird immer bedeutender. Die drei wichtigsten Perspektiven der Psychologie des Entscheidungstreffens enthalten die Gesichtspunkte der kognitiven Psychologie, die Einflüsse der Sozialpsychologie und die Aussichtspunkte der Neuropsychologie. Dieser Einfluss ist auf dem Gebiet der internationalen Beziehungen ersichtlich, besonders bei dem Entscheidungstreffen der Außenpolitik. Diese Studie repräsentiert den ersten Teil, in dem wir die Modelle des Entscheidungstreffens in den internationalen Beziehungen vorstellen: rationaler Täter, Organisationspolitik, bürokratische Politik, kybernetisches Modell, die Prospect-Theorie, poliheuristisches Modell. Das Beispiel, womit wir die Modelle des außenpolitischen Entscheidungstreffens darstellen, ist die Entscheidung aus dem Jahre 1991 Irak nicht zu überfallen.

Schlüsselwörter: *der Prozess des Entscheidungstreffens, das Modell des Rationalen Täters, das Modell der Organisationspolitik, das Modell von der Politik der Bürokratie.*

Introduction

The psychology of decision-making includes three major approaches – from cognitive, social, and neurological perspectives. Each has contributed to the field and has gained much attention in the scientific disciplines beyond psychology. The crucial question is: What will be the next step of the psychology of decision-making? The

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progress of a general theory may be needed. In the past decades, the research on psychology and decision-making has benefited from inspiring theories, such as prospect theory. Over the past thirty years, research has progressed more in generating middle-level theories than in constructing integrative theories. The impressive middle-level theories, the elaborated experimental techniques, and the abundant empirical findings have accumulated building blocks for new theories. The emergence of new integrative theories may contribute greatly to the further development of this field (Zhang, 2009).

An understanding of the impact of self-esteem on choices may facilitate the formation of an integrative theory on motivation and decision-making. People are motivated to defend, maintain and enhance their self-esteem. In social psychology, a large amount of research has documented the importance of self-esteem in shaping goals, emotion and cognition (Baumeister, Vohs, DeWall, Zhang, 2007; Zhang, Baumeister, 2006; Baumeister, 1998; Larrick, 1993). Recent research has started to explore how self-esteem influences individual choices and interpersonal negotiations (Kahneman, Tversky, 2000; Lerner, Keltner, 2001; Loewenstein, Read, Baumeister, 2003). Future research should construct a theory on the role of self-esteem in decision-making.

The psychology of decision-making has emerged in the field of foreign policy, a field where, on different degrees, situations implying options appear: from the beginning of a war, to a peace settlement, to the making of an alliance, or a settlement of diplomatic relations, an implementation of a certain position, an imposition of economical sanctions and a ratification of conventions.

The foreign policy decision-making is related to the choices that individual, groups or coalitions make which affect a nation's actions on the international field. The decisions in the field of foreign policy are characterized by whatever is at stake, by a great uncertainty and by a substantial risk (Renshon, Renshon, 2008). The studies in the field of international relations are focused on the actions of the states and of their leaders. In order to decode these actions, it is useful to know what stands behind these decisions, what puts pressure on an action or an event. The foreign policy decision-making is an important field of research, because the way in which a decision is made could shape an eventual choice (Mintz, De Rouen, 2010). This is a reason why an actor could achieve a different result through the process of decision-making.

An analysis of foreign policy decisions can present the cognitive processes that lead to foreign policy making and "get inside the minds" of the leaders who make the decisions. It can also help identify the unique and general patterns of decisions and generate insights about leadership styles and personalities that cannot be revealed through a systemic approach to foreign policy analysis. Such an approach to foreign policy analysis has the potential to make a broad and important contribution to the study of international relations (Puscas, 2009). Foreign policy decision-making can provide deeper understandings of biases, motivations, and perceptions. Moreover, the growth and development of theories of cognitive psychology and decision theory directly spurred advances in foreign policy decision-making (Mintz, De Rouen, 2010).

This study will present a psychological approach to decision making. The benefits of such an approach are its ability to explain not only the outcomes of decisions, but also the processes and distortions that lead to decisions and the decision dynamics. In contrast to other approaches such as rational choice, a psychological approach to decision making focuses on the process validity as well as the outcome validity. Furthermore, the psychological approach deals with information search and processing as well as with biases and errors in decision-making. The rational choice approach does not fully describe how decision-making is affected by cognitive biases. However, if we are to understand decision-making, we need to understand how information processing is limited and how various biases, search patterns, and decision rules affect decision-making (Puscas, 2009).

This article will begin with an argumentation for using the psychological approach in the analysis of foreign policy, followed by the framing of the models of decision making in foreign policy. The example by which we will demonstrate the models of foreign policy decision-making is the decision of not invading Irak in 1991.

Foreign policy decision making

Most of what we read about international affairs concerns only the actions of the states and their leaders. The course of world politics is shaped by the decisions of the leaders. The uncertainty involved in foreign policy making can pertain to an opponent's motives, beliefs, intentions, or calculations. If we can understand how decisions are made, we can better understand and, perhaps more importantly, predict the outcomes on the international arena. The key determinants of foreign policy decisions are displayed in the next figure:

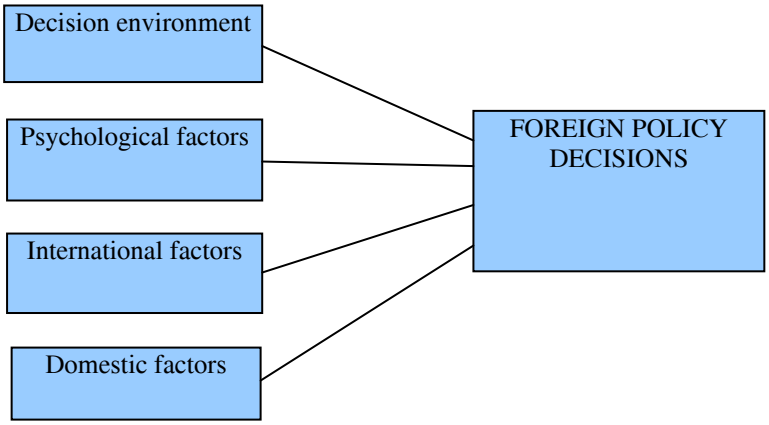

Fig. no. 1: Determinants of Foregin Policy Decisions (after Mintz, De Roune, 2010, p.4)

Foreign policy decision-making consists of four components (Robinson, Snyder, 1965): (1) identifying the decision problem; (2) searching for alternatives,; (3) choosing an alternative, and (4) implementing the alternative.

We make decisions every day. Some of these decisions require very little thought, others must be made quickly. Mintz and DeRouen (2010) gave the example of a traffic accident where a traffic reporter on the radio says that there is an accident just a mile ahead on the road that you are driving on, you would need to think quickly about a course of action.

Although the stakes are much higher, these everyday decision dynamics also occur at the foreign policy level. In the driving analogy, the actor could try to compare the costs and benefits of several alternatives. The options could include waiting until the accident clears or taking the first possible exit in hope for saving some time. In the face of uncertainty, comparing costs and benefits may be more difficult. The actor might think back to some previous experience that approximates the current situation. The use of analogies might provide a mental shortcut that can save time and effort. Perhaps in a similar past experience, the driver had detoured and was easily able to navigate back to the main road. Analogies can work in foreign policy, but are sometimes misleading and can lead to suboptimal outcomes (Mintz, DeRouen, 2010).

An approach to foreign policy analysis focusing on decision-making is vital to a comprehensive understanding of foreign policy behavior, of the world policy, and of the specific policies of nations. Foreign policy decision-making is equipped with theories and models that help us understand how errors, uncertainty, domestic politics, and various decision units can shape decisions.

Models of decision-making

The most important models in foreign policy analysis are: Rational Actor Model, Organizational Politics Model and Bureaucratic Politics Models. Besides these "classical" models (Allison, Zellikow, 2010), specialists mentioned cognitive models, such as Cybernetic Models, Prospect Theory, and an Integrating Model of rational and cognitive approaches, Poliheuristic Theory. Mintz and De Rouen (2010) consider Organizational Politics Model and Bureaucratic Politics Models as cognitive models. It is no the purpose of this article to debate the appartenance of models to each approach, but to show different ways of interpreting a decisions. Because of the limited space of this article, we will presented this time only the "clasical"models of decision-making.

Mintz and DeRouen (2010) speak about the cognitive and rational schools offering different understandings of decision-making. They use a model given by Herbet Simon in 1985, who came up with interesting anthropological-like terms to distinguish between rational and cognitive decision makers. He coined the terms *Homo economicus* to refer to the former, and *Homo psychologicus* to refer to the latter. Simon distinguished *cognitive models* on the basis that they assume decision makers have limited information-processing capabilities. Instead of objectively searching

all information for the best outcome, decision makers will select an acceptable alternative. Whereas the rational school focuses on the maximizing behavior and the comparison of costs and benefits, the cognitive school probes *how humans make decisions* and learn in a limited rational environment. Furthermore, the cognitive school takes into account that humans are selective in the information they use in decision making, use incomplete search processes, and are more likely to select a satisfactory rather than an optimal alternative.

What we have to underline is the fact that an analysis in foreign policy doesn't have to remain stuck to one model, but to use more of them according to the characteristics of the given situation/event, in order to help the political decision makers to choose the best alternative.

A synthetical table for these three classical models of decision-making was presented by Marike Breuning (2007) and Holsti (2006). Breuning goes with three elements in her comparison: determinants of policy, key actors and decision's process. Holsti distinguished between decisions made by organizations, groups and individuals and has the following as reference points: conceptualization of decision making, premises, constraints on rational decision making and sources of theory, insights and evidence.

Table no. 1

Models of decisions making (after Beurning, 2007, p.97)

	1. Rational Policy Model	2. Organizational Process Model	3. Bureaucratic Politics Model
Policy is determined by:	national interest	organizational inertia and feasibility	complex bargaining among individuals and agencies
Key actor(s):	Government, acting as if it is a single, rational decision maker	Organizations, acting on the basis of standard operating procedures (SOP's)	Individuals, guided by role and self-interest
Decision Process:	1. Identify national interest 2. Identify options 3. Cost/Benefit analysis of options 4. Choose policy alternative that best serves national interest	1. Organizational expertise and interests determine preferences 2. Adapt SOP's 3. Feasibility determines policy choice	1. Horizontal: interests determined by role and employing agency 2. Vertical: interests determined by place in hierarchy 3. Bargaining and other political maneuvering determine policy choice

Table no. 2

Models of decision-making (after Holsti, 2006, p. 329)

	Bureaucratic politics	Group dynamics	Individual decision making
Conceptualization of decision making	Decision making as the result of bargaining within bureaucratic	Decision making as the product of group interaction	Decision making as the result of individual choice
Premises	Central organizational values are imperfectly internalized Organizational behavior is political behavior Structure and SOPs affect substance and quality of decisions	Most decisions are made by small elite groups Group is different than the sum of its members Group dynamics affect substance and quality of decisions	Importance of subjective appraisal (definition of the situation) and cognitive processes (information processing, etc.)
Constraints on rational decision making	Imperfect information, resulting from: centralization, hierarchy, and specialization Organizational inertia Conflict between individual and organizational utilities Bureaucratic politics and bargaining dominate decision making and implementation of decisions	Groups may be more effective for some tasks, less for others Pressures for conformity Risk-taking propensity of groups (controversial) Quality of leadership "Groupthink"	Cognitive limits on rationality Information processing distorted by cognitive consistency dynamics (unmotivated biases) Systematic and motivated biases in causal analysis Individual differences in abilities related to decision making (e.g., problem- solving ability, tolerance of ambiguity, defensiveness and anxiety, information seeking, etc.)
Sources of theory, insights, and evidence	Organization theory Sociology of bureaucracies Bureaucratic politics	Social psychology Sociology of small groups	Cognitive dissonance Cognitive psychology Dynamic psychology

An interesting classification of decision-making models belongs to Saikaly (2009): (1) realism and rational choice, (2) bureaucratic politics, and (3) psychology, which includes: (a) small group dynamics, and (b) cognition. She argued that none

of these explanatory variables address the question of preconceived agendas that decision makers bring with them when assuming office. Saikaly thinks that there are foreign policy cases in which the presence of a preexisting solution in the right place, at the right time, and under the right conditions, helps the solution land on the agenda; in that sense, the solution predates the problem, and therefore, foreign-policy making can be *proactive*.

A challenging classification of models of decision-making process made by Gross Stein (2008), distinguishes between the following: rational, psychological and neurological models. The new element is the neuroscience approach, which recasts the role of rational model and opens the system design (of models of decision-making) that can improve foreign policy decision-making.

The new research from the neuroscience domain (Damasio, 2005) does not eliminate the possibility of learning and change. Reflection may come after choices, but it prepares decision makers for the next decision. The challenge is to understand far better how and when emotions are engaged with reflection and reasoning.

We have to mention the approaches of level-analysis realized by Jackson and Sorensen (2007). The foreign policy analysis is divided into three levels: the systemic level, the nation-state level and the level of the individual decision-maker. At each level-analysis, there is a correspondence with the models of decision-making as following: at systemic level with the Rational Actor Model, at nation-state level with bureaucratic politics model and "groupthink", and at individual decision-maker level with the cognitive approach, as well as the psychological factors that influence the decision-making process.

Yetiv (2004) used the level-analysis pattern when he interpreted the event of going to war in the Persian Gulf by three models: Rational Actor Model, the cognitive model and groupthink model. Each of these models was drawn from the three levels of analysis of foreign policy: the systemic level (Rational Actor Model); the nation-state level (groupthink) and the individual level (the cognitive model).

Next, we will describe some of the very important models of decision–making in foreign policy.

Usually, the **Rational Actor** Theory represented "the model" of decision-making in foreign policy and the most common used in international relations (Puscas, 2009). Even though in the last decades we assisted to the expansion of literature regarding the psychology of the decision making in foreign policy in a group, in a coalition or with the leaders. Trying to explain the international events by specific goals and nations or governments represents the mark of Rational Actor Model.

By analyzing Morgenthau's (2007) and Schelling's (1960) interpretations regarding the international events and their evolution in order to secure a balance of power, Allison and Zelikow (2010) conclude that each author presumes that *what has to be explained is an action, a behavior which reflects an aim or intention*. Each of them admits that the actor is the *national government*, representing a state. Each of them belives that a choosing action is a calculated solution to a strategical problem,

and that for each of them, the explanation consists of indicating the aim followed by the government and the fact that the action was a rational choice (taking into account the nation's objective). These assumptions characterize Rational Actor Model, and the conceptual contrasts between Morgenthau and Schelling are obvious.

The majority of analysts interpret the international events in terms of this frame. The assumption that the actions of international relations are *acts of nations* became important in analyzing these problems, so the Rational Actor Model was rarely recognized: the explanation of an external policy phenomenon means to show how a government rationally chooses an action. So, the frame of reference could be called *classic.*

Gross-Stein (2008) said that rational models of decision-making can be used in three ways: first, they are useful as an aspiration, or a norm, but only with the full realization that foreign policy decision makers are unlikely ever to meet that norm; second, the creative use of rational choice models has uncovered many counter-intuitive and non-obvious paradoxes and traps that can be very instructive to decision makers; finally, rational choice models can be designed into small cracks that neuroscience opens up and highlights as spaces that can be used to correct some of the worst biases in decision-making.

Paul Mac Donald (2003) considers that Rational Actor Model „represents the most plausible candidate for a universal theory of social and political behavior, of which simple and intuitive assumptions keep the promise of unifications of different subdomains of political sciences". Mintz and DeRouen (2010) say that rational actor is capable of identifying alternatives and their consequences and to select the most suitable alternative. This definition underlines the power of this model. The Rational Actor Model is an economical model, and that means that few assumptions could explain a large spectrum of foreign policy decisions and actions.

The Rational Actor Model assumes the following steps (Allison, Zelikow, 2010): (1) identifying the problem; (2) identifying and ordering the aims; (3) collecting information (could be permanent); (4) identifying the alternatives for achieving the aims; (5) analyzing the alternatives by considering the consequences and efficiency (costs and benefits) for each alternative and probabilities associated with success; (6) selecting the alternative which maximizes the chances for selecting the best alternative determined before; (7) implementing the decision; (8) monitoring and assessment.

Renshon and Renshon (2008) mentioned that the strict following of these steps does not necessarily ensure the best results. The experts and counseling groups analyze the political dilemmas and they achieve a suboptimal result. Generally, the analitical process of rational model must lead to better decisions, but not always to the best results.

In the most simple form, the Rational Actor Model links the aim with action. Knowing the aim of an actor means knowing his future behavior. By observing his behavior and by taking into account the aim of an actor identified in an action, a hypothesis could be formulated regarding the reason of what he did. The Rational Actor Model includes calculations about the situation that the actor is facing, not just objectives. This context presents threats and opportunities that the actor considers

options, with pros and cons arguments. The actor chooses alternatives that best fit their interests. In applying this model, the analyst will take into consideration the aims, options which are identified, the costs and benefits which he estimates after each option and the ease or reluctance to take risks.

Gross- Stein (2008) says that a rational decision maker should be good at attending to new information that comes along as they are making their choices. Practically, the decision-makers have to update their estimates in response to new reliable information that contains significant evidence. When President Bush was considering whether or not to go to war against Iraq, he was told that Saddam Hussein had sought to buy yellow cake uranium from Niger. This was new information to the president and it was diagnostic: it signaled that Saddam was likely seeking to develop unconventional weapons. But the information wasn't reliable or trustworthy and it should have been excluded from any kind of consideration.

The reliability of information is a threshold barrier on its way into the decision-making process. Determining the trust worthiness of any piece of information, however, is often very difficult to do. Rational process of information management are often swamped by the quick intuitive processes and deep cognitive biases that political leaders use to interpret evidence.

The author mentioned above goes to the next step with *classical* model of Rational Actor, emphasising the individual approach of a decision-maker – „people who make important choices about foreign policy need to be logical, discriminating while open to new evidence, and they need to be *coherent* and *consistent* in responding to logical arguments" (Gross-Stein, p. 103). Another quality „required" from the decision-maker is the *probability to estimate* the consequences of the options that they consider, to update these estimates as they consider new evidence, and to maximize their subjective expected utility. Models of rational choice identify the strategy that leaders should choose, given their preferences and expectations. Rational decision-makers choose the option that promises to give them what is of greatest value to them. The model of rational choice assumes that people are instrumentally rational, but given their existing preferences, people are expected to engage in an appropiate end-means calculation: „Formal models of rational choice don't claim to explain the beliefs and expectations which lead to choice, and therefore leave out most of what is important in explaining foreign policy" (Gross-Stein, p.103).

Going further on the „route of psychology" in decision-making process, Gross Stein (2008) mentioned that people, as a species, are intuitive causal thinkers and we like to think of ourselves as being rational. The most important evidence of the limits of rationality comes from psychology, and this is a reason why specialists in foreign policy have to pay attention to this new approach to the decision-making process. The author said that the work of neuroscientists is important for the analysis of foregin policy, because it is reintroducing conflict as a key feature in the choices made by decision makers: „What makes the work of rationality and neuroscience even more important is that the two tend to converge, a factor of real importance in analyses of foreign policy." (Gross Stein, p. 103).

The second classic model of decision making is **Organizational Politics**. This model underlines the efficiency of work division, of hierarchy and of centralization associated with expertise, rationality and obidience. The followers of this model assume that it must maintain clear boundaries between politics and decision making on one side, and, on the other side, between their administration and implementation. Recent studies approach organizations in different ways (Holsti, 2006). The central premise is that decision taking in bureaucratic organzations isn't constrained only by the formal and legal norms, which intend to grow the rational and to eliminate capricious aspects of bureaucratic behavior. It appears an increase rather than a denial of political character of bureaucratization, but of other „informal" aspects of organizational behavior. Holsti says that complex organizations are composed from individuals and units with perceptions, values and interests that could be sometime conflictual and could appear from its own parochial interests („what is best for my organization is best for my career"), or different perceptions of problems appeared from work division („where you stand depends on where you stay"). The organizational and implicit norms, established before political commitments, inertia, operating standard procedures, could shape or distort the structuring of problems, the canalization of information, the use of expertise, the rate of options which will be taken into account. As a consequence, decision making at organizational level has, in its essence a political character, dominated by resources negociation, or roles and missions and also compromise, rather than analysis (Holsti, 2006).

Holsti considers that in foreign policy this decision making model rarely conforms with the Weberian „ideal type" of rational organization. Some analists assume that crises moments could provide reasons and means of reduction of some non-rational aspects of behavior: the crises tend to force the decisions to the top of organization, where a superior quality of intelligence is avalaible; information penetrates directly to the top of the organization, reducing the distorted effects of information processing through different levels of organizations; and, largely, fewer parochial values will be evoked. Decisions taken over a short period of time, during a crisis, reduces the opportunities of decision making by negotiation.

Mintz and DeRouen (2010) consider that the key dynamic in the organizational politics model are the standard operating procedures (SOPs). Often governmental decisions involve little uncertainty, are not crisis decisions, and are made on the basis of some a priori guideline or administrative rule. Allison and Zelikow (2010) pull several examples of this form of decision making out of the Cuban Missile Crisis. Upon installing the missiles in Cuba, the Soviets did not make immediate efforts to hide the medium-range ballistic missiles despite the fact they were aware of America's ability to use high-altitude U-2 surveillance planes. Furthermore, the Soviets did not preinstall radar or surface-to-air missiles to defend the missile sites. Allison (1971) interprets this as a clear example of organizational decision making with its attendant SOPs. In the past, the Soviets had installed similar missile sites in the USSR without paying attention to radar or camouflage. These were not seen as vital on Soviet soil. So, when the time came for the same agency to install missile sites, they followed the SOP. In this instance, the SOP was a miserable failure for the Soviets.

Mintz, DeRouen used the term *incrementalism*, introduced by David Braybrooke and Charles Lindblom. This dynamic is conservative in that it entails only minor fine-tuning of past decisions rather than a broad exploration of policy alternatives. Incrementalism leads to a decisional inertia because the same alternatives are accepted over and over. Because there is no large deviation from past choices, there is little chance of catastrophic failure resulting from one decision. Although low-risk, if left unmonitored, incrementalism can get out of control. Most budgeting decisions can be characterized as incremental. The incrementalism does not ensure that utility is maximized as it is in the rational actor model.

Because incremental decisions only make for small changes in the status quo, they rarely completely solve problems, but rather provide temporary solutions. Decision makers using incremental approaches can compartmentalize problems, so that problems can be isolated and politically acceptable solutions can be found. In this regard, the American two-party system provides abundant examples of incrementalism. A policy is decided on for a certain problem, then the policy is altered by the other party, then tried, then altered again, and so on.

Critics of the **Organizational Politics Model** assumed that focusing on bureaucratic negotiations has failed to adequately differentiate the positions of the participants. In the American system, the President isn't just another player in an organizational system. He is the last one who takes decision, but also selects the players, a process which is crucial in shaping the future decision. Also, the conception on organizational negotiation tends to underline the non-rational elements till the exclusion of original intellectual differences, which could be rooted in ample preoccupations, including disagreements regarding national interest. It is true that the process of decision making, if managed adequately by promoting and legitimizing multiple advocacy, could favor the high-class decisions.

This model is useful, especially for understanding the slipping between executive decisions and foreign policy actions, which could appear during the implementation, but could be less valuable in explaining the decision itself.

The **Bureaucratic Politics Model** is the third classic model of foreign policy decision-making. Allison and Zelikow (2010) noted that the rational model leads analysts to ascertain the nature of the problem and the alternatives, costs, and benefits associated with each alternative. This model (sometimes called the **governmental model**) looks at how decisions involving various bureaucracies can elicit political competition. The key to this model is that there is no overarching master plan and that decisions emerge from political struggle and bargaining between groups (Dougherty, Pfaltzgraff 1990). Thus, foreign policy decisions emerge within an abstract political space rather than from a formal decision procedure that relies on a formal chain of command. The actors in the bureaucratic politics model are key individuals sitting in top key organizations; each of them is trying to maximize its interests, agendas and goals. In contrast to the rational actor model, the bureaucratic politics model assumes multiple organizations and bureaucracies rather than a single actor.

Bureaucracies are hierarchical organizations that jealously protect their own turf by controlling policy in their area of expertise. Decision makers even have the incentive to negotiate internally with each other before presenting alternatives to the executive. The process may affect which information is presented to the leader and may even restrict information on additional policy options available to the leader. As Renshon and Renshon (2008) pointed out, bureaucracies are likely to limit the search for information and alternatives. Bureaucracies strive to grow so their expertise monopoly can be further consolidated. Turf wars can even result in one agency being swallowed up by a larger agency.

Bureaucratic decisions are not cut and dry. There are winning coalitions/ individuals and losing coalitions/individuals. The losing side might not accept its loss and attempt to prevail despite the reality of the situation. This can lead to fragmented decision-making (Cashman, 1993). Middle level policy decisions are well represented by the bureaucratic politics model. There is typically not enough time for bureaucratic politics to play out during crises.

The Bureaucratic Politics Model is described in a synthetical manner by Jackson and Sorensen (2007):

- bureaucrats and birocracy are driven by agency interests in order to ensure their survival;
- agencies and bureaucracies are involved in a constant competition for various stakes and prizes (the net effect is a policy process whereby struggles for organizational survival, expansion and growth, and imperialism are inevitable);
- competition produces an intra-agency bureaucratic culture and behavior pattern (the axiom "where you stand depends on where you sit" accurately describes this condition);
- bureaucracies have a number of advantages over elected officials in the realm of policy-making (they include expertise, continuity, responsibility for implementation and longevity; these characteristics create an asymmetrical power and dependence relationship between the professional bureaucrats and the elected officials);
- policy made in the arena of bureaucratic politics is characterized by bargaining, accommodation and compromise;
- in the bureaucratic politics system proposals for change are driven by the political considerations. (bureaucracies have a deep-seated interest in self-preservation);
- by its nature, bureaucratic politics raises questions concerning control, accountability, responsiveness and responsibility in a democratic society.

Mintz and DeRouen (2010) provides an interesting bureaucratic politics model of presidential decision-making and policy implementation, presented first by Halperin in 1974. He notes that presidents, except during rare events such as the Cuban Missile Crisis, usually do not indicate specific actors, methods, or timetables when they should make decisions.The presidents make vague decisions after considerable delays and typically do not offer a coherent plan that is applicable to a range of related issues.

Halperin provides an example of his model using President Johnson's decision on the antiballistic missile system (ABM) in the 1960s (Mintz, DeRouen, 2010). The decision reveals the politics and coalition building inherent into the bureaucratic model. The decision involved great discretion in the president's release of information and his stand on the issue, and the president sent out mixed signals throughout the decision process. These mixed signals were manifested in three apparently different purposes for the system. Ostensibly, the president wanted funding for the system but would delay deployment pending an arms talk with the Soviets; Secretary of Defense Robert McNamara argued for the system for protection against the Soviets; the Joint Chiefs of Staff and key senators on the Armed Services Committee wanted it for protection against the Chinese; and the system eventually authorized was designed to protect cities against a Soviet attack. Halperin (1974) demonstrates that President Johnson was able to use vague decision making to maintain a coalition between Secretary of Defense McNamara, the Joint Chiefs of Staff, and Senate Armed Services Chairman Richard Russell. The president played his cards close to his chest so that each side thought he was championing its cause. In this sense, the bureaucratic model took on conflict-solving properties.

In Halperin's bureaucratic politics model, the bureaucracy reigns over the president. Presidential policy goals must be communicated to department heads to begin the implementation process. There is no direct and simultaneous presidential policy mechanism. The result of this effect is evidenced by the ABM policy decision. The ABM decision was shaped by the president's general policy desires, which in turn set the process in motion. The ambiguous nature of the president's goals served to preclude any single actor's views from dominating the decision process.

A Rational Actor Interpretation

The administration's alternatives in this case were: "stop the war" or "continue the war." The rational actor model calls for detailed cost-benefit calculations along each dimension of the decision. Selecting the alternative with the highest "net gain" – the best alternative, it makes a decision.

A "stop the war" decision differs considerably from one made to initiate conflict, when costs and utilities are typically more uncertain. The participation in a conflict allows the leader to more lucidly perceive what the war is costing him in its social, economic, military and political dimensions. The escalation or termination of conflicts entails the calculation of benefits and costs along several dimensions. The military, strategic, political, economic, and diplomatic factors, the balance of forces, and other conditions are important factors affecting such decisions. In order to terminate war, at least one of the participants has to reconsider his estimation of the relative advantages and disadvantages of continuing hostilities. A change in the calculus is an essential prerequisite to the termination of war. However, the process of making compromises and reaching agreement on the termination of hostilities, may be hindered by loss aversion because each side may view its own concessions as losses that loom

larger than the gains achieved by the concessions of the adversary. The very willingness of one party to make a particular concession immediately reduces the perceived value of the concession.

When faced with the decision of *when to stop the war* and with *his popularity skyrocketing*, the president selected the risk-averse alternative of *stopping the war* and rejected the risky alternative of invading Baghdad and ousting Saddam from power. Increasing the gap in the military balance between the Allied Forces and Saddam's forces could not have compensated for the political and military risks involved in continuing the war. The president had decided that the potential costs might be excessive in relation to possible future gains and therefore decided to terminate hostilities. The success of the military operation placed the president in the domain of gain, both politically and militarily and led to the rejection of the "continue the march to Baghdad" alternative.

An Organizational Politics Explanation

The organizational politics model provides a partial explanation of the 1991 decision not to invade Iraq. If we treat members of the U.S. coalition as entities in an organizational politics model, it is clear that when the war ended, their SOP was not to invade Iraq in the absence of UN authority to go beyond driving Iraqi forces out of Kuwait. This decision was the result of fear that an invasion would play into Saddam's hands in characterizing the war as occupation and aggression by the United States.

A Bureaucratic Politics Explanation

The bureaucratic politics model does not provide an adequate explanation of the decision not to invade Iraq in 1991. The U.S. decision exhibited a relatively high consensus among various bureaucracies that make up the U.S. government. Reports indicated that Chairman of the Joint Chiefs General Colin Powell seemed wary of using force to remove Saddam from power. The State Department was likewise reluctant to recommend such a move, mainly because of the fear of dissolving the multi-country coalition, including Arab nations that participated in the broad coalition. The National Security Council supported a limited war that would only remove Hussein from Kuwait. An invasion of Iraq would mean changing objectives in midstream and would be risky. Finally, the White House believed that the cost of the invasion would be too high, and choosing not to invade could be easily justified.

This consensus among U.S. entities, bureaucracies, and organizations does not therefore support the bureaucratic politics model, which would have predicted bargaining among bureaucracies over their role in the invasion. Whereas such a process characterized inter-agency bargaining in the decision to force Iraq out of Kuwait, it was considerably less evident in the decision not to continue to Baghdad in 1991.

Conclusions

This article presents models used for decision-making process in foreign policy. Even though the rational actor model was considered the reference point in explaining international events, and besides its solid support in social science research, it has been the target of criticism and revisionism. The organizational and bureaucratic politics models, with their emphasises on SOPs (standard operational procedures), political struggle, and coalition building, demonstrate that the rational model is not the final word in foreign policy decision-making. Psychological factors are largely ignored in the rational model.

The psychological approach of decision-making process in foreign policy will be the next part of this study. Decisions at the top rung of government are usually taken by small groups or powerful individuals and this tendency will open new ways in the analysis of international relations. The psychology of leaders is an important factor in the transitional periods of international system and internal political systems/regimes.

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INDIVIDUALIZED INTERVENTION PROGRAM FOR LEARNING DISABILITIES AND ADHD

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ABSTRACT. As pedagogical approach presented focused on the intervention for remedial purpose for a student with learning disabilities and ADHD, the integrated conceptual model, the main basis of this study has used many aspects of executive functions with special features in the field of ADHD but in the same time played an important role in solving Romanian language tasks and mathematics tasks.

Keywords: *learning difficulties, ADHD, executive functions*

ZUSAMMENFASSUNG. Wie präsentiert der pädagogischen Ansatz hatte als Objekt die Intervention von Abhilfemaßnahmen, bei einem Schüler mit Lernschwächen und ADHS, das integrierte konzeptionelle Modell die Grundlage dieser Studie war, hat viele Aspekte der exekutiven Funktionen gewertet,, die speziellen Eigenschaften in den Aufzeichung von ADHS eingesetzt haben, aber es hat zur gleichen Zeit eine wichtige Rolle bei der Lösung von Aufgaben der rumänischen Sprache und der Mathematik

Schlüsselwörter: *Lernschwierigkeiten, ADHD, Exekutive Funktionen, das Program ‚Antwort zu der Intervention', „Response to intervention" program*

Conceptual specifications

From the vast field of ADHD, we considered relevant for this study to focus on executive functions, especially since a number of recent studies captured the relationships between cognitive modifications and different types of ADHD (Greenbaum and Markel, 2001; Rief, 2005). Their researches show that the executive functions play an important role in solving various school tasks.

Learning difficulties are often diagnosed using the traditional model, identifying the discrepancies between intellectual ability and academic performance when the child is lagging behind academically or emotionally.

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1. "Response to intervention" program for students with learning difficulties

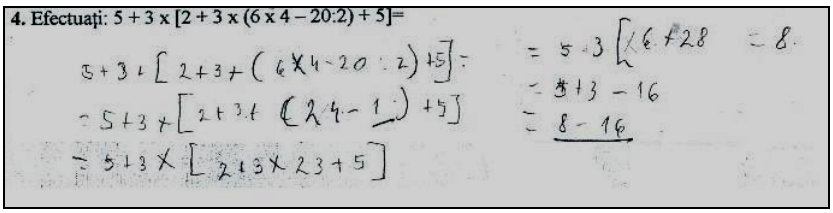
The response to intervention program identifies the student when the student shows resistance to the intervention programs based on school curriculum. When the students show resistance to the intervention program, based on incorrect responses, are diagnosed with learning disabilities.

Response to intervention is an intervention model used in schools in the U.S. and Israel. It is a multifunctional model used both in mainstream education and special education. Students at risk are identified based on poor school performance, or on the undesirable behavior. Their progress is monitored and the intervention intensity is adjusted according to student responses. The students who show resistance to intervention (they do not show a real progress after the intervention) are diagnosed with learning disabilities (Fuchs, et al. Kovaleski 2003, Hoover, 2009).

In South Carolina, US the "Response to Intervention" program is coordinated by the resource teacher who develops individualized intervention programs for students with learning difficulties. Intervention activity takes place in a resource rooms equipped with access technologies and adequate resources allowing effective intervention. The resource teacher collaborates with the regular teachers and together they set the objectives for the intervention program. The resource teacher organizes the schedule for the intervention program and the same person is keeping records of student progress. Every nine weeks the progress report card is sent home to the parents. The period the student is taken out of his regular classroom to benefit from interventions is carefully chosen according to the child's age and its concerns.

2. The experiment

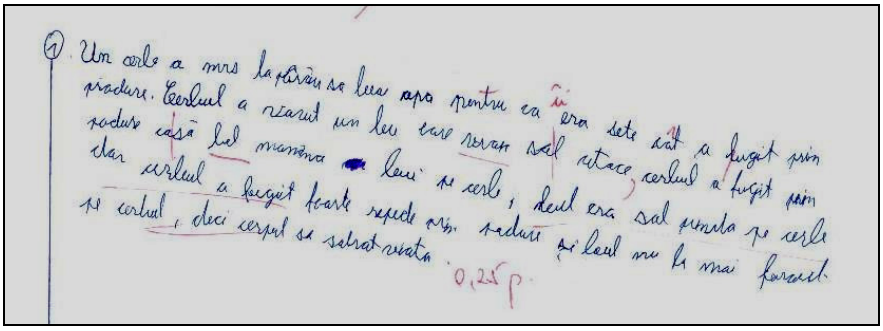
Alex is a 12 year old boy diagnosed with ADHD in autumn 2011. He started first grade in Step-by-Step program, and he was transferred in a traditional classroom in third grade. He tend to hide the truth and to seek all sorts of excuses to avoid school tasks. Alex did not pass fifth grade due to poor results from different disciplines. He is currently enrolled in fifth grade. At the beginning of this school year, he was taken to the doctor and he began the treatment with Strattera. The descriptions for his behavior establish new relationships between ADHD manifestations and learning disabilities.



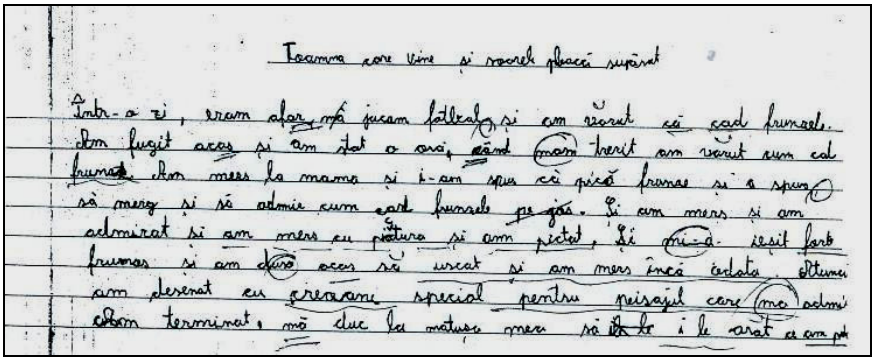
Initial assessments at the beginning of fifth grade took place in September, 2011. The results of these evaluations combined with information on student behavior in the class were the basis for the individualized intervention plan.

Example 1. Exercise - The order of operations. Initial assessment. Date: 09/27/2012.

The student correctly solves the first operation of this exercise but he shows difficulties solving a simple division, omitting a 0. We notice poor spatial organization of the whole approach of computing, the symbols are sometimes +, sometimes x, sometimes the symbols are written inside the parentheses, sometimes the symbols are written outside the parentheses. He solved the exercise on two columns, he copies the exercise on the firs column, then on the second column where the answer for (2 +3) is wrong because the symbol confusion for addition and multiplication. Finally he writes a number (16) and a sign of operation (-) no longer corresponding to the solving procedure.



Example 2. Writing a text about the favorite season. Initial Assessment, Romanian language 2011.



The sample writing of a text about the favorite contains the following errors, combined with the difficulties mentioned above in Example 2.

- Omissions (ex. „afar” instead of „afară”, „acas” instead of „acasă”, „creoane” instead of „creioane”).
- Spelling mistakes (ex. „mam” instead of „m-am” „mia” instead of „mi-a”).

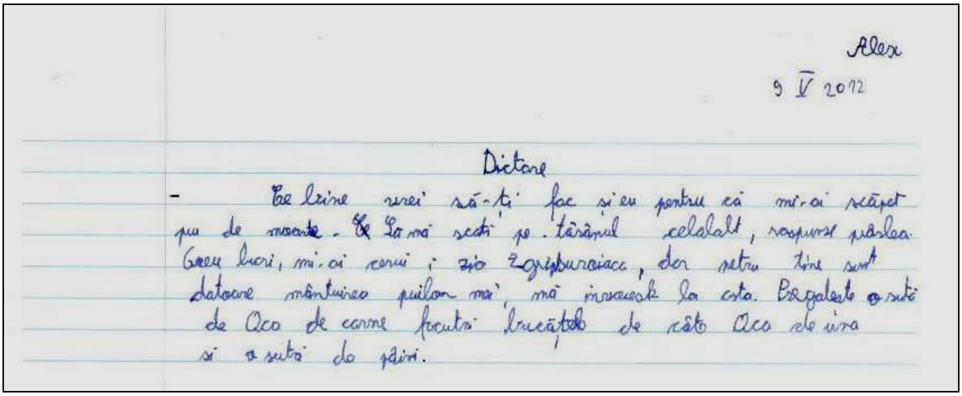
The poverty of ideas presented in these tasks is related to the low level of development of verbal language, to the difficulties of expression, speaking style resulted from the repetitive nature of sentences. The student has difficulty using verbal modes and achieving subject-verb agreement.

The behavioral intervention plan and the personalized education intervention plan were developed based on the data from the initial assessment.

The progress was evaluated in May 2012. This complex evaluation was concerned not only academic performance and, but a number of other aspects of verbal language and communication. These data will determine specific learning difficulties as dyslexia-dysgraphia, dyscalculia. Also, a student interest inventory questionnaire was administered also. A student interest inventory questionnaire was administered in order to have a true understanding of astudent's needs as he perceives himself in relation to school-related tasks and interpersonal relations.

The main aim for the evaluation, conducted in May was to modify and to adjust the personalized educational intervention plan and to adapt the educational objectives and the intervention.

Example 3. Dictation. Date: 05/09/2012

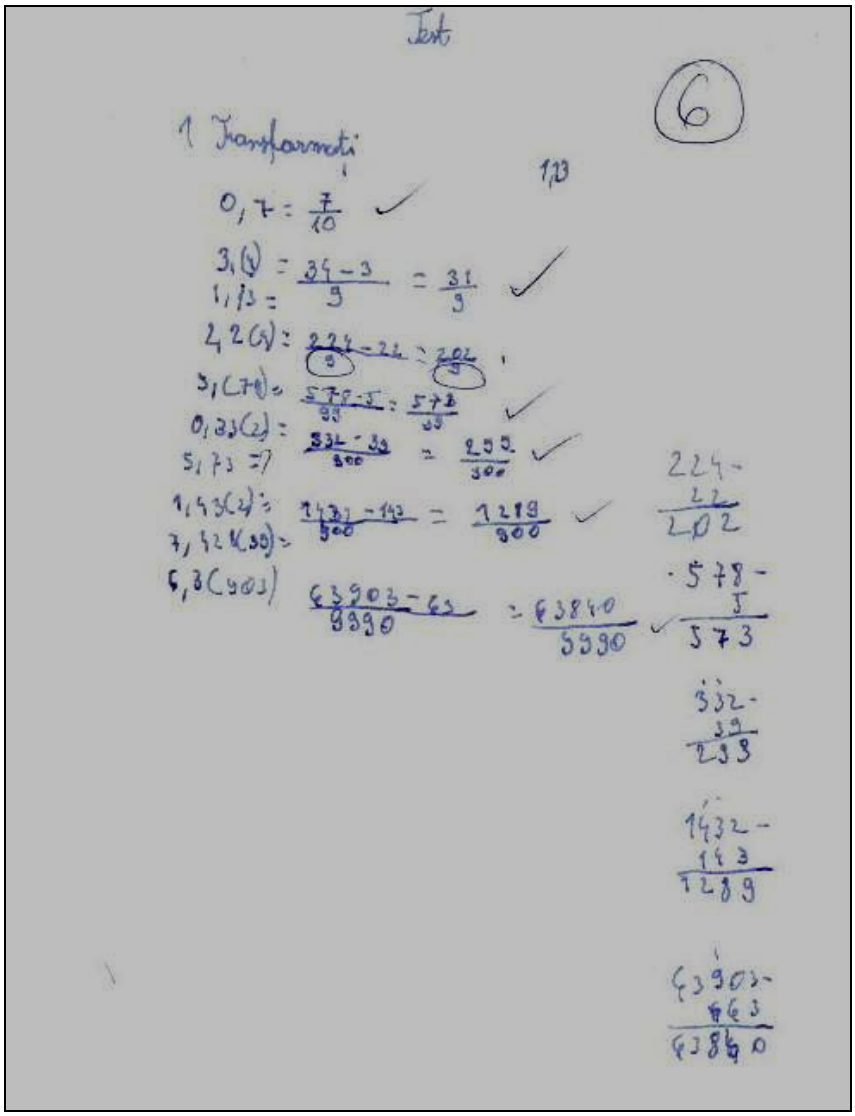


The most common mistakes that occur in dictation are:

- Spelling mistakes (eg: „pui” instead of „puii”, „prâslea” instead of „Prâslea”)
- Replacements (eg: „raspunde” instead of „răspunde”, „lucri” instead of „lucru”, „invoiesk”)
- Omissions (eg: „petru” instead of „pentru”).

Writing is more readable than previous samples, graphic-motor structures are more regular and some ortogrames and punctuation are used correctly.

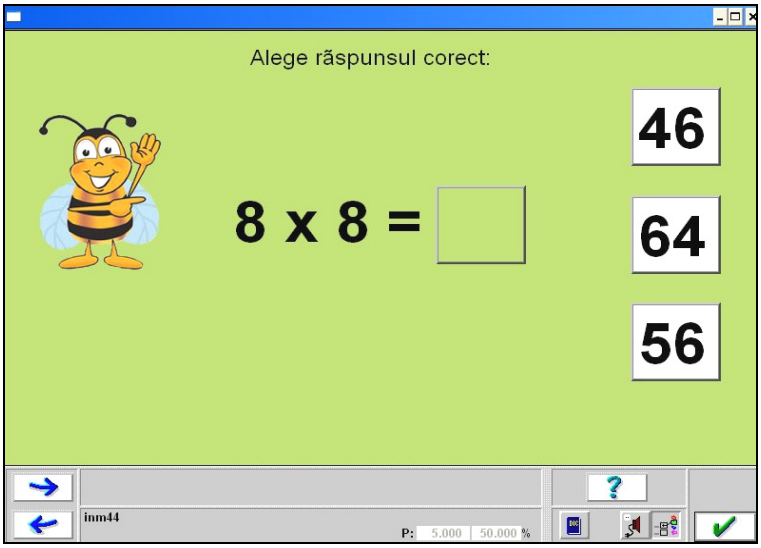
Example 4. Fractions. Test. Date: 05/07/2012

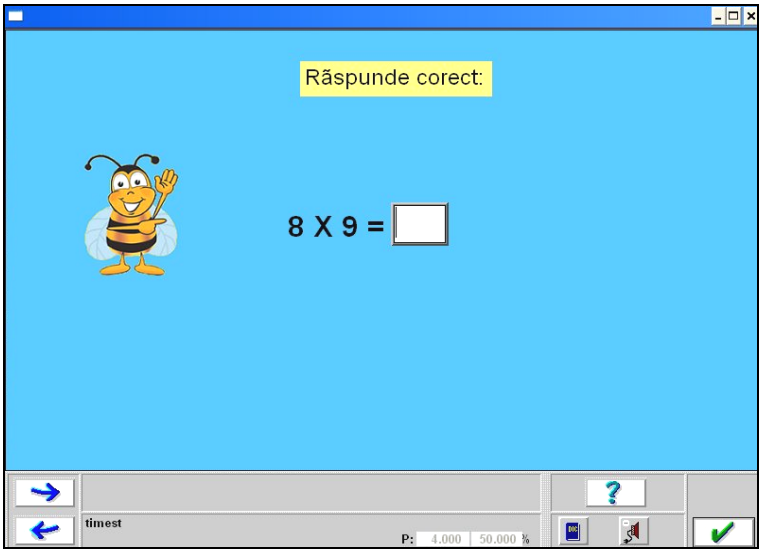


The student demonstrates a real progress in terms of operations with fractions since the beginning of this school year. Thus he solves correctly 6 of 10 exercises converting ordinary fractions into decimal fractions.

The computer has been used as a reward for desirable behavior during classes and as a motivational lever to reduce undesirable behaviors, as we provided in the behavioral intervention plan.

Example 5 shows a screen capture of SIAC educational software illustrating two types of exercises: choosing the correct answer or typing the answer.





Conclusions and perspectives of the study

The new point of view of this study is the correlation between the personalized education intervention plan and the behavioral intervention plan, according to the complex diagnosis of this case. There are many transfers and adjustments arising from personalized education intervention plan and behavior intervention plan according to the documents we attached and the interpretation of the results. The complexity of these relationships can be managed only in the context of multidisciplinary team, monitoring the effects of the intervention and the results the student achieved in specific learning tasks and behavior.

There is correlation between the interventions recorded in the PEPI and the intervention model with methodological character "response to intervention program". This correlation is reflected in the intensity of support interventions necessary and in proper accommodations such as the number of hours spent in resource room and the number of our spent in partnership interventions. The multidisciplinary team time and effort investment (we do not want to neglect the role of parent) reflects the progress recorded and illustrated using different assessment tasks.

At this point the evaluation process is in progress, the tests that will match with the initial assessment tests administered (fractions, math problems, dictation, composition, etc.) and also, there will be administered some tests to identify the specific learning disabilities such as dyslexia, dyscalculia and dysgraphia. Specifying certain elements of these arrays will allow more precise intervention and therefore can positively influence school performance.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 77 – 85

CHARACTERISTICS OF PSYCHOMOTRICITY IN THE CONTEXT OF ATTENTION DEFICIT DISORDER WITH HYPERACTIVITY

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ABSTRACT. This paper establishes the relation between two concepts, the concept of psychomotricity and ADHD, relation reflected by a case study. Fallowing this theoretical framework and detailing executive functions, there can be underlined the main aspects, necessary to be assessed in order to relate those two concepts. Thus, the assessment of the case study is focused on visual-graphical-motor areas, the results confirming us the possibility of relating ADHD and psychomotricyty as two connected concepts.

Keywords: *attention deficit disorder with hyperactivity, pychomotricity, executive functions, visual-motor abilities, graphic-motor abilities*

ZUSAMMENFASSUNG. Die Besonderheiten der Psychomotorik in der Kontext der ADHD (Aufmerksamkeits-Defizit-Syndrom mit Hyperaktivität). Dieser Studie begründet die Beziehung zwischen zwei Konzepte, das Konzept der Psychomotorik und ADHD (Aufmerksamkeits-Defizit-Syndrom mit Hyperaktivität), eine Beziehung gezeigt mit einer Fallstudie. Nach dieser theoretischen Teil und detailiert die Föhrungsaufgaben, die Hauptaspekte können betont werden, es ist notwendig bewertet zu werden in der Beziehung mit diesen Konyepten. Darum die Bewertung der Fallstudie ist konzentriert auf die visuelle-graphische-motrische Bereiche, das Ergebnis bestätigt uns die Möglichkeit der Beziehung der ADHD und Psychomotorik als zwei Konzepte die in Beziehung sind.

Schlüsselwörter: *Aufmerksamkeits-Defizit-Syndrom mit Hyperaktivität, Psychomotorik, die Führungsaufgaben, visuelle-motrische Fähigkeit.*

1. The Role of Executive Functions

The executive functions are the component which ensures behavior regulation in any task (Greenbaum, Markel, 2001 apud Barkley, 1990). These include: working memory, organization of thoughts, time and space, planning, prioritization, focusing and sustaining of attention, recall, emotional self- regulation, monitoring, assessment and reassessment.

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Brown, (2008) outlined six aspects pertaining to executive function in children with ADHD:

- **activation** has to do with organizing abilities, prioritizing, starting the task. Children with ADHD find it difficult to get started on a task, are unable to manage their time, overlook details and end up completing tasks on the last minute.
- **focus** se refers to focusing and sustaining focus. Disorders at this level mean that these children are distracted easily by any external or internal distracting factor. They are unable to complete a task or to take up multiple tasks, as they are too focused on a single aspect.
- **effort-** this refers to the ability to regulate task engagement and processing speed. Children with ADHD have difficulties in sustaining alertness for the tasks which lack motor, social or cognitive feedback.
- **emotions**- has to do with the role and the mode in which it modulates emotions and frustrations. Children with ADHD are quickly overwhelmed with school tasks and react angrily, immediately to the situation. Later on they become aware of the way they reacted and at this point a weak activation sets in.
- **memory**- has to do with working memory and information recall. Being deficient, this component interferes with completing tasks of reading, writing or calculus.
- **action**-refers to the ability to self regulate one's behavior. Barkley, (2000 apud Dekel, 2012) considers this to be the main issue of children with ADD, having major implications in the social and communication abilities. Therefore, the communicative pragmatic component can be impaired due to the weak control over the interference factors.

2. Psychomotricity

Psychomotricity is a complex function which integrates motor and psychological elements. These regulate individual behavior, including participation of different psychological processes and functions, thus ensuring the proper execution of response acts to different stimulus situations. (Preda, 2009).

3. The Psychomotricity-ADHD relationship

Considering Brown's model, (2008) and Pennington et al. (1996) as well as having into considerations other aspects reflected by for assessment and approach, the psychomotor component was selected, reflected both at the level of oral and written linguistic structure. The structuralist linguistic model is adopted in the analysis of the relationship pre-acquisitions-psychomotricity-learning difficulties-ADHD.

The following aspects were under observation at the level of oral language, the detailed presentation being made in the extended study:

- the organization of the phonologic processing (aiming at aspects of psychomotricity such as: auditory reception, sequencing, phonemic hearing, phonemic segmentation);

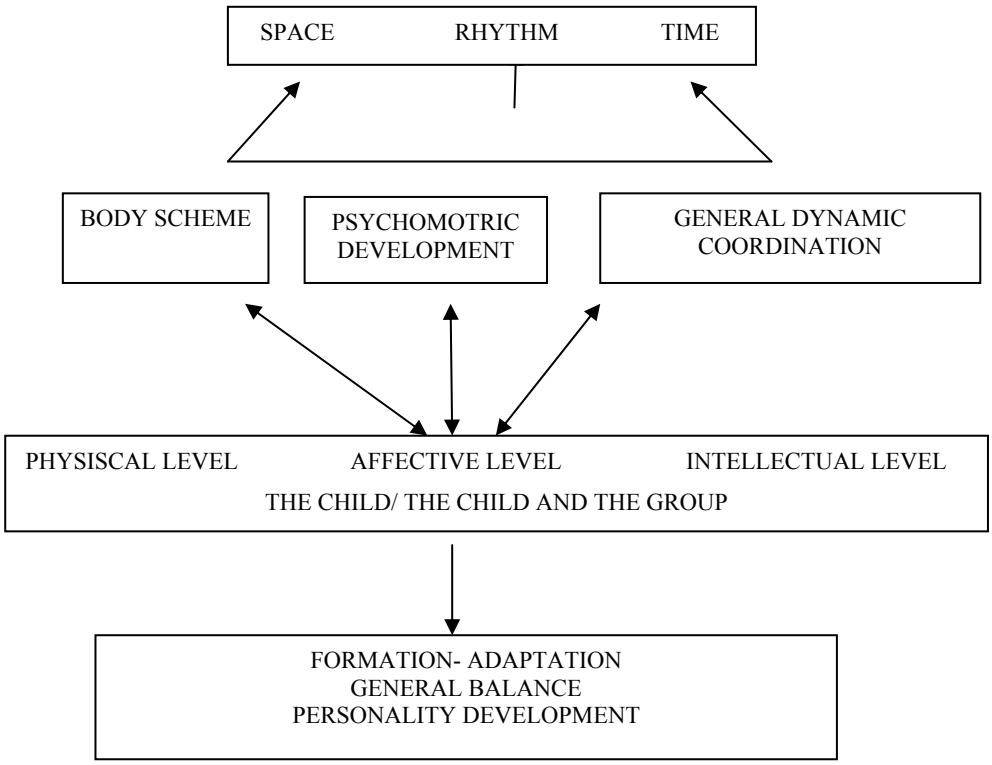

Fig. 1. Psychomotricity and the psychomotor development factors (Preda, 2009)

- the organization of morphological abilities (aiming at aspects of psychomotricity such as spatial-temporal organization, sensory-perceptive structures, orientation and direction);

- the organization of the lexical/ semantic abilities (aiming at aspects of psychomotricity such as general and fine motricity, body scheme, laterality);

- the organization of the pragmatic abilities (aiming at integrative aspects of psychomotricity considered against conversational, communicative situations).

At the level of the written language, the fallowing things were under observation, they being detailed in this paper:

- visual-spatial-graphical structuring: assessed by Reversal Test and Kohs Cubes (Preda, 1997);

- graphical-motor abilities: assessed by educational tasks.

4. Presentation of the case study

The case study will focus on the educational path and particularities of an adolescent girl at the end of ninth grade in high school. The child had been diagnosed with ADD, displaying learning difficulties both in reading- writing and calculus.

4.1 Anamnestic data

Anamnestic data were collected during an unstructured interview with the mother. It is important to note that the mother has been actively involved in providing support and as a result she displays a good knowledge of the child's psycho-pedagogical characteristics.

The educational path is marked by very contrasting aspects from one school cycle to another. If, during kindergarten, she did not have any difficulties in adapting to the educational environment, in adjusting to the requirements and the requisites of the educational environment; starting with the first school year the difficulties became more and more present.

The parents reported the following aspects:

- reading difficulties, both in decoding the graphemes and associating the graphemes with the corresponding phonemes, and at level of reading comprehension;
- mathematics related difficulties, very obvious at the level of simple calculus and also in the case of problem solving, where more complex algorhythms must be followed.

Thes elearning difficulties are also reported by Ungureanu, (1998) and Green, (2001), ADHD having understood as an umbrella concept, relating a lot of other factors, entitled as comorbidities.

The parent emphasizes the fact that these difficulties are rooted in the incapacity to focus and sustain focus for task solving and also in the hasty, impulsive working style.

The child has benefitted from a diversified support up to the time of the assessment described in this case study. The parent has provided this support, starting from the moment the first signs of difficulty were noticed (i.e. beginning of first grade), until high school. Regarding the type of support provided, the pedagogic support has the largest ratio, manifested factually through helping in preparing the lessons for the next day. The psychological and psycho-pedagogical support has a smaller ratio. This is indicative of the fact that those who worked with the child were more concerned with the effects and not the causes of the problem.

4.2 Assessment

A psycho-pedagogical assessment is envisaged, based on visual-graphic assessment and the assessment of the written verbal language.

4.2.1 Visual- graphic tests

The morphologic tasks through which the orthograms usage is assessed reveal difficulties on both the level of phonetic-phonologic structuring, and at the morphologic structuring level. Therefore, aspects pertaining to pre-acquisitions, such as phonematic hearing, phonological conscience, sequential processing, spatial-temporal organization, motor abilities of coordination, are poorly structured.

Orthograms assessment also indicates troubles in visual-spatial processing. The Reversal test and the test with the Kohs cubes were used for the assessment of the visual-spatial structuring and of the mental representations of image.

The scores for these tests are extremely low, the child being unable to differentiate the symmetric from the identical for the images which require the different orientation of images on the vertical axis, on the horizontal axis, but especially for the two combined axes. It was noted that most mistakes were done when the items were very resembling to the representation of some graphemes.

Regarding the Reversal test, the number of items poses another problem for the child. The test is too long in time and staying focused on the task for a long period of time proved to be costly in terms of answer correctness.

For the quantitative analysis of the Reversal test, 23 mistakes place the child at the age level of 4-5 years (Oltea Laura Ban, 1997 indicated in a study conducted on Romanian population that the average level of mistakes in the Reversal Test at the age of 4 is 23 and at the age of 5 years is 19).

Based on the results of the Reversal test it can be concluded that the psychomotor troubles are obvious; the child displays difficulties in spatial orientation, left-right and up-down differentiation.

The scores for the Kohs test are very poor. From the quantitative point of view, these scores indicate a development level below the age of seven (55 average points). Therefore we consider that the qualitative approach of the test results has a higher diagnosis and prognosis value.

The child has very few difficulties in solving the items in section I-V. The help provided was minimal, dealing mostly with orientation. The working time is increased, the number of trials and attempts being at least two or three. This indicates insecurity and difficulty in manipulating mental representations. Model VI was highly difficult, in every instance it was resorted to providing even the last concrete help, namely the realization of the construction by the teacher. Even in this situation, the child was unable to recreate the model correctly (model VIII-X).

The increasing complexity of the task leads to a growing amount of frustration, so that starting with model VI the child remains in the in task with great difficulty and demands the termination of the task or at least to be changed.

4.2.2 Graphic-motor abilities

The writing is characterized by a series of troubles related both to the basic motor abilities and to the psychomotor aspects such as: fine motricity, right level of pressure applied on the writing instrument, lifting the writing instrument from the

sheet when moving to another word, following the imposed lining, following a given pattern, organizing the space on the paper sheet, aspects pertaining to laterality.

The writing was assessed by means of logatoms also.

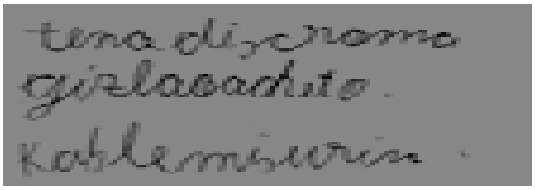

Fig 2. Writing after dictation logatoms

Syllabic writing facilitates a correct writing, which proves that the process involved in this type of exercise is not comprehension, but decoding, at which level the child displays no deficiencies.

The assessment of the writing of meaningful words after dictation is difficult, the comprehension process acting as interference in the graphical-motor representation of words.

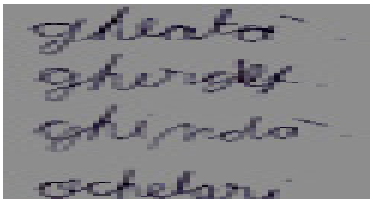

Fig 3. Writing after dictation words containing the clusters "ghe" , "che"

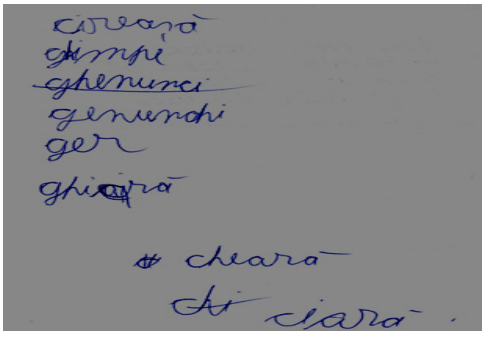

Fig. 4. Writing after dictation words containing the clusters "ci", "ghi", "ge", "che"

In the figures above, the words written after dictation contain the letter clusters which are most difficult to decode for the child, namely the clusters „ghe", „che", „ci", „ghi", „ge", „che" (all these letter clusters are specific for Romanian language). It can be noted that, even if the child knows the meaning of the words, she succeeds in writing the word through trial and error, prompting for the assessor's feedback after each written word.

The figure below displays a writing sample collected based on a text composition task. The title chosen for the text was „The Dancer", due to the child's interest in this subject.

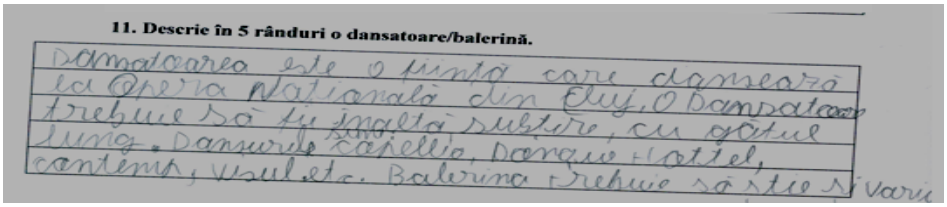

Fig. 5. Writing sample- text elaborated based on a given title

Considering the dysgraphia scale designed by Ajuriaguerra, 1980 (Ungureanu, 1998), the writing space has overall, an unkempt appearance, the lines fluctuate, there are crowded words, corrected letters, the loops and curves are variable in size.

In the above sample we also can underline child1s difficulties in operating with upper case letters where proper names are to be used. This aspect mainly reveals dysgraphic difficulties at the level of the graphemes, the association of the graphemes with the corresponding phonemes being functional.

An assessment task, which is, at the same time, meant for training the graphic-motor abilities for an adolescent with learning difficulties, is based on graphical organizers (Raduly-Zorgo, 2010). This type of task facilitates cognitive operations of analysis, synthesis, comparison, along with lexical-graphic abilities, it being introduce during the assessment procedure for confirming the above findings related with child`s psychomotor difficulties.

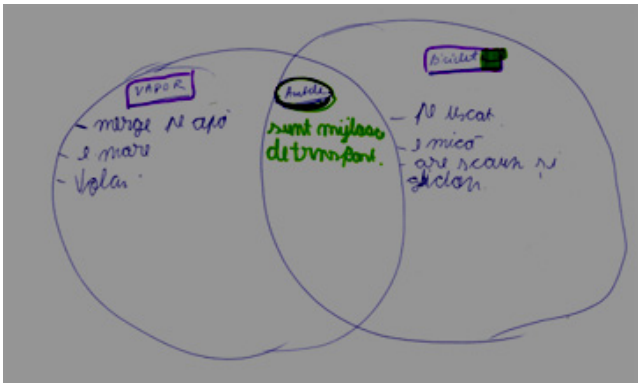

Fig. 6. Example of exercise based on circular lexico-graphic organizers

In the above figure the child is asked to graphically represent common and differentiating aspects for a "bike" and a "ship". The working style is organized

regarding naming differentiating features for those two transportation means. The most important difficulties were faced when having to name common aspects, as it can be seed from the figure, just one common aspect being written. The same aspect was revealed when the child was supposed to name synonyms for a certain word, she facing a lot of difficulties, more difficulties than when she was asked to name antonyms for a certain words.

The word „ghidon (handle bar)" was written with great difficulty due to the fact that it contains the letter cluster "ghi", aspect convergent with the above detailed findings.

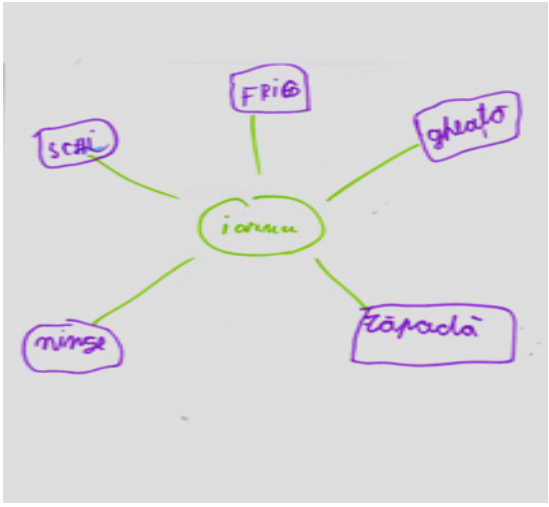

Fig. 7. Example of exercise based on star-shaped lexico-graphic organizers

In the figure number 7, the type of organizer used for assessing child`s abilities is a star like one. The child was supposed to name the features of the seasons, in the above sample, the features of the winter season.

By analyzing the writing, we can underline the fact that the child could name, with relative leisure different features for all the four seasons, much easier than the child was asked to solve the same task orally. It can be concluded that even if when handling the words for the four seasons the child is supposed to operate with abstract lexical contents, the option for graphical representation, concretize the task, it facilitating the recalling.

Having into considerations these results, our recommendation is to project psycho-pedagogical interventions focused on valorizing written abilities, especially these abilities best promoted by graphical organizers, they having great positive implications both in the case of managing working strategies and in cognitive-actional plan.

Conclusions

Based on relating psychomotricity with ADHD in the above detailed case study, the fallowing aspects can be underlined: words writing is approximate, voluntary actions are limited, graphic-motor abilities are reduced, child`s interest for writing and for developing writing abilities is reduced, as well as her convictions regarding the possibility of reaching superior developmental levels in the graphic-motor filed. Despite these aspects, when analyzing child`s results based on using the organizers we can conclude that writing difficulties can be caused by other factors than ADHD, factors related with self-esteem and motivation for practicing in the graphic-motor filed. Thus, our recommendation, for this case, is to develop psycho-pedagogical approaches focused on developing child`s interest for scholar activities, developing motivational level, improving self-esteem and self-perception.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 87 – 95

CONTRIBUTION OF EDUCATIONAL GAME TO THE EFFECTIVE COMMUNICATION IN EDUCATIONAL ACTIVITIES

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ABSTRACT. One of the key requirements of modern education is the training of communication skills that will help the future adult in his academic preparation, but to contribute also to ensure active social inclusion of the human subject. It reveals the socio-economic dimension of education, but also the need to prepare individuals for optimal social and professional integration. In this context, educational game is a way of identifying the correct degree of extension, the implications of each category of obstacles and relationships they have in training and communication development. But at the same time, through educational game the educator can help improve teaching communication. Through this study was wanted an identication of barriers and bottlenecks, leading to the worsening situation of communication, leading to reduction, isolation and even stopping communication functionality. The overall objective was to research the concrete possibilities of preventing and overcoming barriers and bottlenecks in the teaching communication through educational game, subordinated to principles, and methodology governing the accomplishment of the investigations. Using educational games in teaching educational activities contribute to the optimization of teaching communication, improving educational relationship between teacher and student, but also pointing out superior academic performance. At the same time, the appropriate use of educational game in all forms of language development in education, through its hiring students in cooperative activities, the emphasis on the degree of interaction and broaden the framework of activities undertaken outside the school, are elements that can stimulate intellectual activity of students and teaching dialogue development.

Keywords: *educational games, teaching communication, educational activities, Young children, failure, efficiency, motivation*

ZUSAMMENFASSUNG. Der Beitrag der Bildungsspiele zu der wirksamen Kommunikation in Bildungsaktivitäten. Eine der wichtigen Voraussetzungen der modernen Bildung ist die Ausbildung der Kommunikationsfähigkeiten, die den Erwachsenen in seiner zukünftigen akadamischen Vorbereitung helfen wird, aber auch als mitwirken in der aktiven soziallen Aufnahme der Menschen. Es offenbart die sozial-ökonomische Dimension der Bildung, aber auch der Bedarf die Einzelpersonen für die optimale sozialle und berufliche Integrierung. In dieser Kontext, das Bildungsspiel ist eine Art und Weise zu Identifizierung der richtigen Ausmaß der

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Erweiterung, die Auswirkung jeder Kategorie von Hindernis und Beziehung, die sie in dem Training und Entwicklung der Kommunikation. Aber in derselben Zeit durch die Bildungsspiele der Lehrer, kann bei der verbessern der Lehrkommunikation helfen. Durch diese Studie wurde die Bestimmung der Grenzen und Engstellen, diese führen zu der Verschlechterung der Kommunikationssituation, Abnahme, Absonderung und auch die Verstoppung der Kommunikationsfunktionalität. Das allgemeine Ziel war die Untersuchung der konkreten Möglichkeiten von Verhinderung und Überwindung der Grenzen und Engstellen in der Lehrkommunikation durch Bildungsspiele, untergeordnet der Grundsätzen und Methodologien, die die Leistung der Untersuchung führt. Die Benutzung von Bildungsspiele in die Lehre der Bildungsaktivitäten, führen zu der Verbesserung der Lehrkommunikation, Verfeinerung der Beziehung zwischen Lehrer und Student, aber es zeigt auch ausgezeichnete wissenschaftliche Leistung. In derselben Zeit die Benutzung der Bildungsspiele in all Formen der Sprachenentwicklung in der Ausbildung, durch Einstellung der Studenten zu gegenseitige Aktivitäten, die Betonung an der Ausmaß der Einwirkung und Erweiterung der Rahmen der Aktivitäten außer der Schule, sind Elemente, die die intelektuelle Aktivitäten der Studenten und die Lehrdialogsentwicklung fördert.

Schlüsselwörter: *Bildungsspiele, Lehrkommunikation, Bildungsaktivitaten, junge Kinder, das Scheitern, die Leistung, die Motivation*

1. Problem Statement

Romania in the last 20 years has undergone profound changes in the political dimension, but also in the socio-economic dimension building for herself a new image, often beyond the search of logical criteria logic and why not methodological ones. These changes have opened for the citizens the way to the modern world, to their desire to make a grand project of social emancipation, removal of ignorance and the oppression strategies of the individual. Romanian citizen fought for his freedom, for freedom of expression, knowledge development, the promotion of rational solutions for the society they live in, because he understood that rationality is the deep essence of modernity. In the fluctuating conditions in the socio-economic and political level it was necessary the adequacy of knowledge, actions, objectives, strategies needed in this project and historical process, and all being able to be shaped only through communication dimension. Reform undertaken by the State had as objective among others, improving education, achieving even a barometer of its quality, aiming at the evolution and progress of education, but also the evolution and progress of society at the same time, aiming that the so dynamic transformations at the societal level to influence the field of education. It was wanted the education to become a formative activity of improvement of the biopsihocomportamental spectrum of the individual, while moralizing, and humanising, to enrich the personality of the subject with useful and value features for him. The educational reform is the result of the

education working as intercession, but also the selection, processing and transmission of knowledge and cultural humanistic values from the society to the individual, on the basis of a high quality psychological, educational, social and moral criteria. But this "project" of democracy to which the citizen dreamed for so many generations also stretched by educational field raising among specialists many interrogations, to which they for more than 20 years are looking for answers and solutions. Witnessing a crisis of education or just the Romanian educational system? The Romanian educational system came to a standstill, after many searches and solutions in the international systems? Or the financial crisis that hit Romania crossed so deeply Romanian educational policy because it led to a more strong employment of the individual in destructive collective actions, the emergence of the "subculture of despair", and why not, this counter-morality of the society where the educated is redefining his new system of social communication. All this leads to a new rethinking of the communication system so complete and complex in the educational activities carried out, and also a redefinition of their efficiency in the context in which they see a lack of concern for civilization communication, when in everyday situations that the educated is faced with, we assist to a "popularization of language through a false social democracy, to impose and promote anonymity or general lack of accountability to the spoken word" (Şoitu, L., 2001).

In this context educational projects to streamline communication through educational game in the institution had as objective this approach, because it is the binder between diverse and specific issues of contemporary society and how to solve them in the educational environment. The more dynamic biorhythms of Romanian society, the problems of communication situations, where the effect of communication becomes more difficult to program and also to predict, diversifying communication technologies favored a capacity of abstraction and generalization of the more advanced education, but also have led to a much faster pace and diversified communication, which often created disturbances in teaching communication. Through game the child is being taught to rediscover himself, gradually get closer to the primordial human. Through an analysis of communication it was found that our children mature much earlier, are laughing, playing less and less, are captured by the social economies biorhythm, they enjoy less and less the real joys of life, they killed slowly even the sense of humor. Are so serious, that the activities carried out daily contracts, and life is no longer for the child a ground game or a track for creativity. Is therefore important what the child creates through game, but more important is the inner joy, that the game causes through this manifestation of the free spirit.

2.Methods

At international it has been created an issue on the theories and paradigms about the game, which over time have been on the attention of various specialists: psychologists, educators, sociologists, anthropologists, philosophers have grounded

their research on the identification, cultivation, promotion of playful activities, but also the argumentation of their formative valences from various and contradictory perspectives.

In instructive-educational activities, games method being rationally integrated, may positively influence internal factors but also external factors, leading to effective educational communication, which reflects the essence of the educational act. The teacher in his educational work aims to optimize educational activity, through relentless concern he has for vocabulary development and expression capacity development within educational communication. From this perspective, the motivation for proposing this study is based on the functional aspect of educational game, on the way of assimilation of reality to the child's own activity of reflection and transformation, becoming a "functional exercise" as Swiss psychologist Jean Piaget defined it, but also a means of efficient communication in educational activity, an intimate resort of propulsion of learners to civilization, but also to self-knowledge. This study is based also on the tangible applicative dimension, on educational interventions in the Romanian educational system, reflects causal no convergent relationship, which sometimes led to a significant disorder and dysfunction in educational communication, in the whole dynamic, based on the flexibility of roles and the permanent interaction of psychological, cognitive, physical, social, temporal, cultural factors, influencing, and conditioning effective communication. At this point a problem of society is the loss at social, cultural and economical level, caused by inadequate educational services offered by specialized institutions through inadequate or insufficient educational strategies for developing communication skills, educational unfavorable climate, emotional climate, characteristics of educational language, psycho-affective incongruity, teachers features, but also students' etc.

In the Romanian society that is experiencing a period of continuous social and economic transition stands out an issue of malfunctions that occur in the act of educational communication. All these are repercussions of Romanian society instability, the poor management that can take a toll on educational policies at macro level and on the instructive-educational act at micro level. These "inconveniences", which appear in the general educational act are considered by teachers, but also by students as difficulties registered in getting school performance, with repercussions also on the relationship process. Identifying them by teachers determine the causes that led to the challenge, and exploring the expression caused workaround solutions, but also to overcome. From this point of view it is necessary to start a special investigation because research results will be useful for teachers, will represent educational suggestions to guide their educational activities to identify new opportunities for formative intervention, new interactive educational strategy, to prevent and remove obstacles in the act of communication and lead to vocabulary development and self expression capacity development. The research purpose was to identify the role of educational game in improving educational communication. In this investigative approach teachers were involved, and educational partners. Assuming that the

educational game plays a significant role in training and developing communication skills, as game drives the child in stimulating and verbal and nonverbal communication practice in the direction proposed within each game, without his awareness of this effort has emerged investigative approach.

Research objectives:

• X-rays actually existing state of educational activities on communicative act;

• structuring a formative educational program, in collaboration with teachers from experimental classes and parents of students, as important educational factors in the development of communication skills;

• enhancing educational game in instructive-educational activities in order to improve communication;

• carrying out educational activities with educational game in their center, for developing students ability to communicate more effectively, to encourage them to put their individuality in value, aiming to transfer creative skills in the sphere of educational process;

• finding how the extracurricular activity affects the educational communication act, the creative ability and students motivation to achieve school performance.

Investigation would be the radiography of the situation existing in educational reality in schools regarding educational communication and the obstacles encountered in it, the solutions set to prevent the emergence and at the same time overcome them through the game, as method for efficiency in the educational communication act. Scientifically based, it were considered strict methodological issues, designed to provide relevance and consistency, but also desirable and tangible purpose for educational practice. It was also watched the training of teachers in primary education, educational environment favorable characteristics hierarchy, aimed the aspect of school ergonomics and socio-psycho-pedagogical purposes, influencing effective educational communication, the attitude toward playful activities that contributes to a better knowledge of students, perceived as a factor for improvement of relationships between educator and educated, educational game-item to boost pupils' creativity and personal reflection of the child in the context of educational communication by identifying the problems, determining the sources and their extent. The objectives mentioned above are supported by the hypothesis of work.

General hypothesis of this research is based on the following assumption:

Implementing an education program based on educational games, with formative effects on cognitive and no cognitive plan, determines the efficiency of educational communication through the development of students communication skills, bring down barriers of educational communication and prevent their transformation into blocks of communication.

Taking into account existing information in the literature, but also in the educational practice, through the degree of effectiveness of the solutions proposed by both teachers, but also by students or parents, in the sense of efficient communication through various types of educational games, in the study was also deemed necessary

interviewing a total of 20 teachers (10 teachers in rural primary school, 10 teachers in urban primary school) involved in educational activities in classroom. To describe the lot of research are aimed the variables: initial training and including teachers specialization, length registered in the educational system and length of professional education(specialty) within the system, the number of years of work in the institution where he is the holder, period at the class, age , academic degree obtained, type, type of continuous training. In experimental research, research tools and methods used have pursued data collection, followed their analysis to verify the hypothesis, to provide relevant answers on the topic investigated. During the investigation a methodology was used, which included: a questionnaire survey, interview-based survey, observation methods (used during the formative and investigative approach oriented on the conduct of formal and no formal educational activities), method call (used in different formative contexts, addressed to the teachers, pupils and their parents). Also were considered "limits" in educational activities that the game has to improve communication.

In terms of content sampling it was followed the selection of subject areas (Language and Communication area, Man and Society), within which to choose subjects in which we can intervene to streamline communication through game. Were also made transdisciplinary activities with the students, approaching specific topics that through game method can lead to effective educational communication. In terms of detail regarding selected themes we will not insist; an example:" Friendship" , "Our School", "Man", "Story land", "values", "Local Community", "Family"; these are addressed in the context of work activity organization in pairs, teams, group. With reference to the information we acquired from surgery we could highlight the findings, through which research findings are clear undertaken. Through the materialization of diagnostic study, the goal was achieved in the research, tracing the issues both quantitative and qualitative that circumscribed, leading to the appreciation on the progress made by students through educational program structured on diversity of different types of educational games with impact on the process of knowledge / self-awareness and development. The results demonstrated that in addition to recording specific tasks that were pursued in designing the educational game with its structural elements (educational scope, task and playful content), but also to support correct, consistent and fluent communication, in the experiment were provided also the highlighting issues that could positively influence the effective educational communication. The results also confirmed that teachers had in mind (percentage) during the educational program developed based on games, also: The report cause and effect provided through the logic link of an oral message sequences 70%; Encourage students to express their opinions 64%; Correct reception of the message depending on conditions of educational communication 80%; Development of attention and a sense of tolerance towards dialogue partner 48%; Appropriate group integration of students through correct oral expression and self-expression 60%; Provide a pleasant emotional climate in developing educational activities built on educational games 90%; In the playback of the message the student to use a correct intonation and pronunciation 56%; Enhance interactive nature of the educational game 83%; Research objectives were

correlated with the general hypothesis; were confirmed by ensuring consistency and validity of the study undertaken.

The teaching intervention conducted, initiated a global picture of how teachers can design activities to streamline educational communication based on game method and through a differentiated and complementary guidance we can obtained formative effects in the cognitive and noncognitiv students plan in developing communication skills and prevent problems that have led to disruption of communicative act. Results have highlighted the differences existing in educational communication between students from urban and rural environment, producing a picture of the communicative-behavioral manifestations of students enrolled in this project. Therefore results pointed out that in rural environment 64% for students is necessary to perform certain activities centered on development of active listening abilities or a double focus, perception and reproduction of listening. Following the intervention, educational games have been successful in these students' listening ability, led in students to self improvement (34%), empathy (48%), development of the effort on their part to build meaning (26%) and distance themselves from interlocutor's speech, by defining his personal visions in presenting an issue (55%), For rural students involved in such activity allowed communication skills development, but also an increase in knowledge assimilation in a proportion up to 24% and educational games used in selected subjects acted as improvement of educational communication. Were held constant group educational activities, but also team ones, watching the collaboration between students, overcoming emotions and fears related to the reaction of the teacher and members of the group, motivating participants, increasing self-esteem, and relating to student - student, student-teacher. Results achieved through the investigative approach and through the questionnaire revealed the teachers opinion on difficulties encountered in educational communication. The responses provided by respondents is a criterion in the analysis and questioning approach regarding the design on educational activities based on educational game method, to its effectiveness in teaching, improvement of perturbations occurring in communicative act, to develop a complex mechanism of deliberation, implementation and monitoring of educational programs that lead to effective educational activities. The objective of this project, which targeted the formative aspect of teaching involved, it represents raising standards in training teachers to obtain more favorable results. The results emphasize learning activities (percentage) method based on the game, which teachers use them in effective communication in instructional and educational activities: 90% word games, exercises of speech of each word with the accent issues 65%; exercise control of tone, intonation and speed of own speech 57%, diction and orthopedic exercises 48%, dialogue exercise with different people 74%, conversations on familiar topics for students 96%, exercises of stimulation of communication situations with different partners on different issues 76%, simulated acts of communication (telephone calls, calls on face-book, the Skype, formal and informal dialogues) in which students use greetings, forms of presentation, formulate questions, offer responses, present different facts, analyze them 68%, completing exercise of construction elements of communication 80%, establishing agreements grammar exercises 100%. Following

the performance of this study was outlined the specific dimension of the educational activities in knowledge, improving and optimizing the psychological potential, involving networking activities, support and emotional side development, cooperation and adaptation to specific environmental features. Qualitative and quantitative analysis of the results of the questionnaire survey showed that an 80% of the interviewed teachers want to relieve the pressure by selecting, structuring, essentiality of content of unique curriculum that, because of information overload, cause substantial lags behind for students and boredom and surfeit at times, also wants a more flexible curriculum and its compatibility with European standards. Thereby, results of interview-based survey also found that a 75% of the interviewed teachers follow in their teaching work a change in program content, which to "succeed to engage students in an intellectual effort, in an actual feeling and volitional expression" (Chiş, V., 2005, p. 114), while to contribute to the objectives of the curriculum is an intermediate element in the training and development in students of a competent educational system.

The results showed also that the use at those subjects of educational games during the intervention period ("the word-disappeared", "Listen and draw", "intruder recognition", etc.) have contributed to an increase of over 38% of capacity for active listening and active listener rules that follow them. Young children become able through such an approach to build questions, and answers related to the message in the educational context, to take original ideas and also to inter-relate in context, to have a positive attitude, high self-esteem, dampen egocentric tendencies in relation to the interlocutor, communicative solidarity is building and he is able to adopt a spontaneous communication style with a transparent reaction during the game to the message sent by his partner. Observation method used during the formative investigative approach has highlighted that a 85% of teachers in formal and no formal educational activities have conducted through educational game an objective teaching strategy, with cognitive involvement, but also a subjective strategy, oriented towards the affective domain, which took as variables: student personality, classroom climate, relationships teacher-student, specific group relations, building cooperation at the group, but developing also a sense of competition in the field as a positive visible and immediate influence. All these efforts have built learning experiences that have caused through game desirable changes in Young children behavior, have led to a more efficient communication in educational activities in class and showed that educational game, skillfully used, is an approach to prevent and overcome the obstacles of educational communication, is an effective approach in communicative performance of students in educational activities.

3. Conclusions

The topic discussed in the pedagogical intervention is relevant, modern and up-to-date for the Romanian education system, faced with a quest of his identity in the last 20 years, with a change from year to year on how the inter-relationship teacher - student, and student-student is. Changes implemented at the social economical level,

as well as "news" that media broadcasts in its projects have caused changes in the verbal and nonverbal component of small school children which led to profound changes in the attitude on their part. All these have left their mark on the educational communications, led to mistrust, to poor management in managing interactions, lack of credibility and a conspicuous climate materialized in a difference in status and value of the interlocutors in specific communicative contexts. Educational game for small schoolchild is an effective method in educational communication, in psychosocial skills practice, in training through his work in group activities where students can hold control of their emotions, to have their capacities and individual availabilities improved for development of reasoning ability, language development and a logical thinking. The educational game becomes for the teacher, but also for students, in this society subject to so many conflicting changes, a method of identifying and implementing practical ways to stimulate, motivate and activate Young children in educational activities, a way so direct to promote the content of curricula which to train communication skills, thinking functions and also lead to knowledge transfer. Thus, more than 20 years after the fall of the communist bloc and through game, children sees how "difficult" proves to be the freedom, this world so "purified", where unwillingly it exists only one direction, a sign of the mind, and the whole educational system, society are and remain only one copy of ideas.

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STUDIA UBB PSYCHOL.-PAED., LVII, 1, 2012, pp. 97 – 107

HOW PRIMARY SCHOOL TEACHERS DEVELOP THEIR PUPILS' MATHEMATICAL WORD PROBLEM SOLVING SKILLS

IULIANA MARCHIŞ*

ABSTRACT. Problem solving is an important skill that all persons should possess. Mathematical word problems contribute for the development of the problem solving skill. These problems occupy an important space in primary school mathematical curriculum. Primary school teachers have to develop their pupils' mathematical word problem solving skills. The aim of this research is to study how primary school teachers solve mathematical word problems with their pupils. Three quarters of the teachers guide pupils in order to understand the problem and encourage them for self-control during problem solving. Only one third of the respondents encourage their students to solve the problems with more methods. Only half of the teachers ask their pupils to present the solution. Three quarters of the respondents have a positive attitude and guidance in case their pupils can't solve a problem. Almost three quarters of the primary school teachers give interesting, real life close problems in class. Teachers expect more from their pupils as regarding problem solving behaviour than they do.

Keywords: *teaching Mathematics, primary school, problem solving, mathematical word problem.*

Introduction

Mathematical word problems occupy an important space in primary school mathematical curriculum. Thus is because these problems essentially contribute to the development of problem solving skills.

Mathematics education has undergone major changing in the last decades. The focus has moved from acquiring mathematical knowledge to developing problem solving skills. This change is reflected also in international tests (PISA, TIMSS, etc.) where emphasis is put on solving mathematical problems arisen from real world situations. Teachers who can't adapt to these changes probably will produce students who can only use the learnt rules, formulas, or methods (Ernest, 1988). There are many reasons that teachers can't make this change. They may not master the pedagogical skills or/and confidence to adapt to these changes (Gregg, 1995) or they may have a not too strong mathematical background (Brown, Cooney & Jones,

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1990). Even if they have the necessary pedagogical and mathematical knowledge, they are tempted to use teaching methods similar to those of their own teachers (Brown, Cooney & Jones, 1990). Also, teachers' beliefs about mathematics influence their teaching style. "One's conception of what mathematics is affects one's conception of how it should be presented. One's manner of presenting it is an indication of what one believes to be most essential in it. (Hersh, 1986, p. 13) Two teachers with similar mathematical and pedagogical knowledge could teach differently depending what they think important: the mastery of notions, formulas, methods and procedures or "the continually expanding field of human creation and invention" (Ernest, 1988, p. 93).

A previous paper highlighted that in Romania primary school teachers' mathematical problem solving skills and behaviour should be improved (Marchis, 2011).The aim of this article is to study how primary school teachers solve mathematical word problems with their pupils.

1. Theoretical background

1.1. Attitude to mathematical problem solving

Students' interest in mathematics, their beliefs in the utility of the mathematical knowledge in their future career or in their everyday life determine in a fundamental way their problem-solving behaviour. „Belief systems are one's mathematical world view, the perspective with which one approaches mathematics and mathematical task. One's beliefs about mathematics can determine how one chooses to approach a problem, which techniques will be used or avoided, how long and how hard one will work on it, and so on." (Schoenfeld, 1985, p. 45) There is a link between students' attitudes and their achievement in mathematics (Schoenfeld, 1989; Mc Leod, 1992; Brown et al. 1988), thus developing a positive attitude towards learning mathematics is important. First of all teachers' attitude towards mathematics and mathematics teaching has an important influence on pupils. Also, giving students interesting problems to solve, increase their motivation for learning mathematics. Teaching pupils how to solve mathematical problems develops a positive attitude towards word problem solving (Higgins, 1997). Composing their own word problems also helps students in changing their attitudes regarding these problems and becoming familiar with the mathematical terminology (Edwards et al., 2002).

1.2. Mathematical word problem solving

Mathematical word problem solving requires multiple processes, such as reading, text comprehension, problem representation, selection and execution of calculation operations (Kintsch & Greeno, 1985; Mayer & Hegarty, 1996; Swanson, 2004). Pólya (1945) has identified four main stages when solving a problem: understanding the problem, making a plan, carrying out the plan, and reviewing the solution. Similar steps are described by other researchers (among others Higgins, 1997; Leader & Middleton, 2004; Ridlon, 2004). According to Mayer (1983), problem solving has two phases: problem representation and search for solutions.

1.3. Understanding the text of the problem

When solving mathematical word problems, it is important to understand the text of the problem (DeCorte & Verschaffel, 1985; Kintsch & Greeno, 1985; Reusser, 1989; Vilenius-Tuohimaa, Acenola & Nurmi, 2008). The understanding stage includes some text comprehension techniques, for example, to identify the unknown words, to reformulate the problem, to think about a picture or diagram that might help to understand the problem context, and the relations between the given and unknown data (Pólya, 1957).

When reading a word problem, the difficulties encountered by the pupils could be related with understanding of some words used in the text, and understanding some sequences or some specific vocabulary (Ballew & Cunningham, 1982; Bernardo, 1999; Stape, 2011). If pupils are familiar with the story content, they understand the text better (Wiest, 1996). Visual representation has an important role in the organization of information given in the text (Antonietti, 1991; Hegarty, Mayer & Monk, 1995). Pupils should be taught how to solve a word problem: to read and understand the problem, to design a solution plan, to solve the problem, and than to formulate and check their answer in the context of the problem (Higgins, 1997; Ridlon, 2004).

2. Research

2.1. Research design

Aim of the research

The aim of the research is to study how primary school teachers develop their pupils' mathematical word problem solving skills.

Tool of the research

The main tool of the research is a questionnaire developed for evaluating how primary school teachers develop their pupils' problem solving skills. The first 3 items are demographic questions, the next 27 items are related with the topic of the research and they are affirmations which have to be evaluated by the respondents on a 5-point Likert scale: from 1- not at all typical for me to 5 – totally describes me. These items can be divided in two clusters: items related with teachers' problem solving behaviour (5 items) and questions related with teachers' actions in order to facilitate pupils' problem solving (22 items). There are only 5 questions related with teachers' problem solving, because the aim is not to study their problem solving behaviour. These items are only for comparing teachers' behaviour with their expectations in pupils' problem solving behaviour. The affirmations are formulated based on the theory related with problem solving. Cronbach's alpha reliability for the questionnaire is .0.823.

Sample of the research

The questionnaire was anonymously filled in by 31 primary school teachers during January-February 2011. All of the respondents are females. This reflects the reality in the system, there are only few male primary school teachers.

More than one third of the respondents (36%) have between 31 and 40 years old, 23% between 41 and 50 years old, 19-19 % less than 25 years old respectively between 25 and 30 years old (see Figure 1).

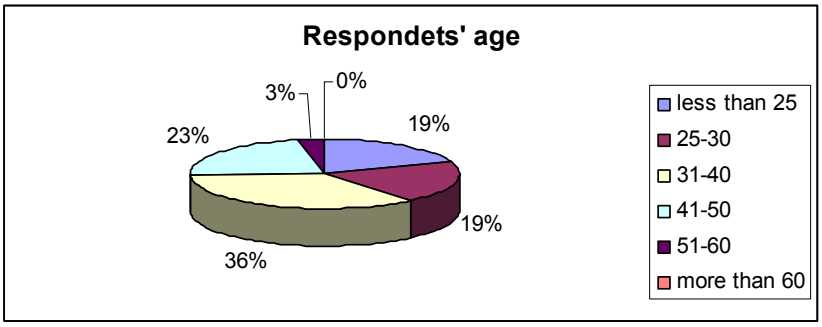

Figure 1. Respondents' age

Almost one third of the teachers (28%) have between 11 and 15 years of teaching experience, 26% between 2 and 6 years, 16% between 16 and 25 years of experience (for more details see Figure 2).

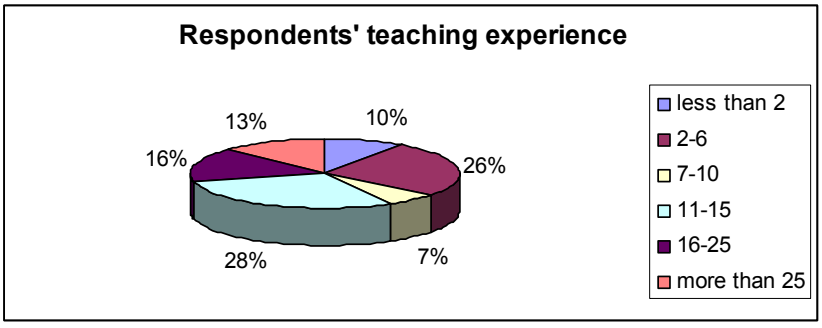

Figure 2. Respondents' teaching experience

2.2. Results

Items related with teachers' problem solving guidance are grouped in five clusters: understanding the text of the problem (Table 1), behaviour during problem solving (Table 2), presenting the solution (Table 3), actions in case of unsuccessful problem solving (Table 4), and criteria of selecting the problems given in the classroom (Table 5). Means, standard deviations, and percentages of those for who the affirmation is true are presented in Table 1, Table 2, Table 3, Table 4, and Table 5.

Table 1.

Understanding the text of the problem

Item	Mean	Standard deviation	Affirmation is true (%)
I ask pupils to read the text carefully.	4.61	.803	87.1
I ask pupils to reformulate the text of the problem with their own words.	3.97	1.016	74.2
I ask pupils to write the data and the relations between these data.	4.32	.945	74.2

Table 2.

Behaviour during problem solving

Item	Mean	Standard deviation	Affirmation is true (%)
I ask pupils to solve the problem with more methods.	2.94	1.031	38.7
I ask pupils to check if they have used all the data of the problem.	4.16	.969	67.7
I ask pupils to check if the solution is correct.	4.42	.765	83.9
I ask pupils to select the most efficient method, if the problem can be solved with more methods.	3.68	1.013	48.4

Table 3.

Presenting the solution

Item	Mean	Standard deviation	Affirmation is true (%)
I ask pupils to write down the detailed solution.	3.81	.873	58.1
I ask pupils to explain the solution in front of the class.	3.71	1.006	58.1
I ask pupils to explain the solution to each other.	3.42	.720	42.0
I often use the cooperative group work for problem solving.	3.39	1.145	51.6

Table 4.

In case of unsuccessful problem solving

Item	Mean	Standard deviation	Affirmation is true (%)
I ask pupils to recall previous knowledge related with the problem.	3.32	1.077	41.9
I ask pupils to reread the problem.	4.45	.810	87.1
I ask pupils to tell what difficulties he/she has.	4.10	1.012	77.4
I give them hints which could help, but I don't tell the steps of the solution.	4.19	.910	74.2
I write the solution to the blackboard.	2.00	1.065	22.6
I tell him/her to try more methods.	3.45	.925	45.2

Table 5.

Selecting the problems given in the classroom

Item	Mean	Standard deviation	Affirmation is true (%)
I take in consideration the type of problems given at national tests.	2.84	1.068	25.8
I choose interesting problems.	4.03	.795	71.0
I give problems related with the everyday life.	4.10	.978	71.0
I choose problems which can be solved by almost all pupils from my classroom.	4.03	.912	67.7
I choose suitable problem for each pupil.	3.58	.992	48.4

Table 6.

Comparing teachers' problem solving behaviour and their expectations to pupils problem solving

Item	Teacher behaviour		Teacher's expectation to pupils		Correlation coefficient
	Mean	Standard deviation	Mean	Standard deviation	
Reformulating the text of the problem with ones own words.	3.13	1.088	3.97	1.016	.396*
Denoting the data and the relations between these data.	3.97	1.080	4.32	.945	.696***
Solving the problem with more methods.	2.48	.926	2.94	1.031	.452*
Checking if the solution is correct.	3.97	1.048	4.42	.765	.308
Checking if all the data are used.	4.16	.779	4.16	.969	.538**

* significance level .05, ** significance level .01, *** significance level .001

2.3. Discussion

When faced with a problem, self-regulated learners begin to analyze the task in order to identify the requirements of it (Pintrich, 2000; Schunk, 2000). Understanding the text of the problem is very important. Most of the teachers ask their pupils to read the text carefully (mean 4.61, standard deviation .803), three quarters of them request pupils to extract the known and unknown data respective the relations between these data (mean 4.32, standard deviation 1.016) and to reformulate the text of the problem (mean 3.97, standard deviation .945) – see Table 1. There is a strong correlation between teachers' behaviour and their expectation from pupils in case of denoting the data and the relations between these data (correlation coefficient .696) – Table 6. There is a mild correlation between teachers' behaviour

and their expectation from pupils in case of reformulating the text of the problem (correlation coefficient .396) – Table 6. In case of the teachers' behaviour the mean is less than in case of their expectation from pupils in case of both affirmations (Table 6).

Self-control and self-monitoring of the cognitive strategies, motivation, and behaviour are also important. While solving mathematics problems "control has to do with the decisions and actions undertaken in analyzing and exploring problem conditions, planning courses of action, selecting and organizing strategies, monitoring actions and progress, checking outcomes and results, evaluating plans and strategies, revising and abandoning unproductive plans and strategies, and reflecting upon all decisions made and actions taken during the course of working on a problem." (Lester et al., 1989, p. 4) Most of the teachers ask their pupils to check if the solution is correct (mean 4.42, standard deviation .765), three quarters of the teachers request pupils to verify if they have used all the data of the problem (mean 4.16, standard deviation .969) – Table 2. When solving problems by themselves there are teachers who usually don't check if the solution is correct (mean 3.97, standard deviation 1.048) – Table 6. There is a strong correlation between teachers' behaviour and their expectation from pupils in case of checking if all the data are used (Table 6). Searching for more methods for solving the same problem and evaluating these methods in order to chose the most efficient one is essential for developing problem solving skills. Most of the teachers usually don't try to search for more solving methods (mean 2.48, standard deviation .926) and only less than half of the teachers ask their pupils to solve a problem with more methods (mean 2.94, standard deviation 1.031) – Table 6. Almost half of the teachers ask pupils to select the most efficient solution in case they have solved a problem in more different ways (mean 3.68, standard deviation 1.013) – Table 2.

"When thinking is articulated regularly, patterns of thinking develop that are iterative. Thinking cannot be articulated unless students reflect on the problem and the strategies they use to solve it; articulation, in turn, increase reflection, which leads to understanding." (Fennema et al., 1999, p. 188) Writing down the detailed solution or explaining the solution to the class or to a colleague helps pupils to verbalize their thinking. The most expected behaviour is to write down the detailed solution (mean 3.81, standard deviation .873) and to explain the solution in front of the class (mean 3.71, standard deviation 1.006) – Table 3.

Group work helps students to acquire higher motivation and performance; and to work more independently (Rojas-Drummond et al., 1998; Stevens and Slavin, 1992). During collaborated learning students need to explain their reasoning and they get feedback from their colleagues. Through critically examining others thinking and reasoning, participating in discussions, students learn to monitor their own thinking and to build adequate reasoning (Artzt & Yaloz-Femia, 1999). Only less than half of the teachers ask their pupils to explain the solution to each other (mean 3.42, standard deviation .720) or to work in groups (mean 3.39, standard deviation 1.145) – Table 3.

A person with high problem solving skills is not lost in case of unsuccessful problem solving; he/she has methods for reaching a solution. Rereading the problem, recalling previous knowledge and worked examples, verbalizing his/her difficulties with the problem all help to overcome the unsuccessfulness of the first attempt. Most of the teachers ask their pupils to reread the problem (mean 4.45, standard deviation .810); three quarters of them guide pupils to verbalize their difficulties (mean 4.10, standard deviation 1.012) and give them hints without giving the solution (mean 4.19, standard deviation .910). Less than half of the teachers ask pupils to recall previous knowledge related with the problem (mean 3.32, standard deviation 1.077) or try more methods (mean 3.45, standard deviation .925) - Table 4. Almost one quarter of the teachers write the solution of the blackboard instead of guiding pupils to discover this solution (Table 4).

Almost three quarters of the teachers choose interesting problems (mean 4.03, standard deviation .795) or problems with connection to everyday life (mean 4.10, standard deviation .978) – Table 5. Only one quarter take in consideration the type of the problems given on national tests. Usually the problems from the Romanian national tests are mathematically formulated; don't have any relation with pupils' real life (Marchis, 2009a). None of the problems from these tests are challenging (Marchis, 2009b), most of them cover only the knowledge, understanding, and application cognitive levels: to solve them it is only required to apply formulas or algorithms. Three third of the respondents choose the problems in that way that most of the pupils could solve it (mean 4.03, standard deviation .912), which not always adequate, as talented pupils are not challenged in this way. Almost half of the teachers try differentiating the difficulty of the problem according to the problem solving level of each pupil (mean 3.58, standard deviation .992).

Conclusions, limitations, and future implications

Three quarters of the teachers guide pupils in order to understand the problem and encourage them for self-control during problem solving. Only one third of the respondents encourage their students to solve the problems with more methods. Only half of the teachers ask their pupils to present the solution (write down the detailed solution, explain the solution in front of the class or to each other in groups). Three quarters of the respondents have a positive attitude and guidance in case their pupils can't solve a problem. Almost three quarters of the primary school teachers give interesting, real life close problems in class. Teachers expect more from their pupils as regarding problem solving behaviour than they do when they solve problems by themselves.

For more relevant conclusion the sample size should be increased and class observations should be done.

Teacher training courses should focus on developing primary school teachers' problem solving skills and giving them the adequate pedagogical methods and tools to be able to raise pupils' motivation and develop their problem solving skills.

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ACHIEVEMENT GOALS AND ACHIEVEMENT EMOTIONS OF ROMANIAN GIFTED STUDENTS

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ABSTRACT. The current study ia an exploratory study aiming to investigate achievement goals and achievement emotions of romanian gifted students participating at the National Chemistry Olympics using the control-value theory of achievement emotions (Pekrun, 2006) and the trichotomous model of achievement goals (Elliot & Harackiewicz, 1996). Our analysis revelead a homogenous group holding adaptative goals and achievement emotions patterns and the results partially support previous research on the relations between achievement goals and achievement emotions . The results are discussed relative to previous research on the topic and educational implications for gifted education are highlightened.

Keywords: *achievement emotions, achievement goals, giftedness*

ZUSAMMENFASSUNG. Diese Studie ist eine Forschung und zielt die Leistungszielen und Leistung Emotionen der rumänischen hochbegabte Schülern mit der Steuer-Wert Theorie der Leistungsmotivation Emotionen (Pekrun, 2006) und dem Modell der trichotomische Leistungszielen (Elliot & Harackiewicz, 1996) zu untersuchen. Diese Schüler nahmen an der nationalen Chemie-Olympiade teil. Unsere Analyse ergab eine homogene Gruppe, die adaptative Ziele und Mustern von Leistung Emotionen halten. Die Ergebnisse stützen teilweise die vorangegangene Untersuchung über die Beziehungen zwischen Leistungszielen und Leistung Emotionen. Die Ergebnisse werden im Vergleich zu früheren Untersuchungen zum Thema diskutiert. Die theoretische und praktische Folgen für die hochbegabte Erziehung werden auch betont.

Schlüsselwörter: Leistung *Emotionen, Leistungszielen, Hochbegabung*

The contemporary paradigmatic change in conceptualizing giftedness is obvious in the recent definition of giftedness provided by The National Association for Gifted Students in the US: gifted children are considered those students who show extraordinary aptitudinal levels (defined as exceptional reasoning or learning abilities) or competency levels (demonstrated performance in top 10 percent) in

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one or more domains. These domains include any structured activity field who has his own symbolic system (mathematics, music etc.) and/or a specific set of abilities (dance, sports etc.) (DelSiegel & McCoach, 2010). The multidimensional character of giftedness is highlightened in VanTassel-Baska's (1998, 2005) definition which states that giftedness is the manifestation of general intelligence in a specific domain of human functioning on a level that significantly exceeds the norm in order to predict the possibility of an original contribution to the development of a certain field. Our theoretical position is in accord to that formulated by Heller (1989) that accentuates the notion of potentiality in conceptualizing giftedness; this potential can or cannot be activated by the educational opportunities in the environment. According to this assumption, giftedness represents the individual potential (cognitive and motivational) and the conditions (social and cultural) for excellent performance in one or more domains in difficult theoretical and practical tasks.

During the last decades, two opposite argumentation lines have dominated the dialogue on exceptional performance (Heller & Perleth, 2007): one admits that exceptional contributions in society are made by exceptional individuals (giftedness research) and the other one considers that exceptional contributions can be made by individuals with a wide range of abilities (expertise research). The main argument of the later one is that intelligence or giftedness are totally unimportant for exceptional performance; more important are experience a and "deliberate practice" (Sternberg, 2003), which involve engagement, motivation and self-control. These motivational competencies are responsible for expertise development. Heller and Perleth (2007) consider that this two lines of argumentation overlap considerably and they are the result of different accents, not the result of opposite views. Also, all the recent models of talent development admit that, in order to sustain the transition from high abilities to excellent performance, the action of facilitative factors, like a supportive learning environment and the quality of instruction, play an essential role.

Within this framework, we seek to explore motivational and emotional factors that are able to sustain the performance of gifted students facing important national and international competitions.

Achievement goals

Achievement goals are defined as competence relevant aims that individuals strive for in achievement settings (Dweck, 1986, apud Pekrun, Elliot & Maier, 2009). Initially, a dichotomous framework was used with mastery goals (learning goals) that focus on the development of competence and performance (or ego goals) focusing on demonstrating competence. Mastery goals create a framework in which inputs and outputs provide information about one's learning and mastery, whereas performance goals create a framework in which inputs and outputs are interpreted in terms of one's ability and its adequacy (Dweck & Leggett, 1988, apud. Alkharusi, 2010). Recent work distinguishes between approach and avoidance achievement goals. The distinction

was first applied to performance goals (Elliot and Harackiewicz, 1996), in a trichotomous model of achievement goals. Within this model, mastery goals are defined as approach goals focused on attaining competence defined by task-based standards or intrapersonal standards, performance approach goals are goals focused on attaining competence defined by normative standards and performance-avoidance goals defined as goal focused on avoiding incompetence as defined by normative standards. Research repeatedly showed the predictive utility of achievement goals for academic performance. For example, mastery goals positively predict performance (Linnenbrink, 2005), but research also shows zero results for this relation (Senko & Harackiewicz, 2005) The predictive relationship is insignificant, even though the trend is positive (Pekrun, Elliot, Maier, 2009).

Performance approach goals are positive predictors for performance (Pekrun, Elliot, Maier, 2009; Elliot & Church, 1997), but zero results were also found (Pajares & Valiante, 2001). Performance avoidance goals are negative predictors for performance (Pekrun, Elliot, Maier, 2009; Elliot & McGregor, 2001; Wolters, 2004), but Sideris (2005), for example, found no results for this relation.

Achievement emotions

Educational environment, with all its components, gives rise to a large variety of emotional experiences that influence learning, teaching and performance. Achievement emotions can influence cognitive, motivational and regulatory processes and act as mediators of their relation with learning and performance, but they also influence well-being and life satisfaction (Pekrun et al., 2002). According to control-value theory of achievement emotions (Pekrun, 2006), achievement emotions are those emotions directed related to achievement activities and their results. The distinction between activity emotions and outcome emotions is made based on the object of emotion. Beside this dimension, emotions can be classified regarding their valence (positive vs. negative, pleasant vs. unpleasant) and their activation (activating vs. deactivating).

	Positive		**Negative**	
The object of emotion	Activating	Deactivating	Activating	Deactivating
Learning activity	Enjoyment	Relaxation	Anger	Boredom
			Frustration	
The outcome of the learning activity	Joy	Contempt	Anxiety	Sadness
	Hope	Relief	Shame	Disappointment
	Pride		Anger	Hopelessness
	Gratitude			

(Source: Pekrun, 2006)

The theory stipulates that the evaluations of different achievement activities and their outcomes are of major importance for emotions to occur. The key element of this theory states that students have specific achievement emotions when they perceive they have /don't have control regarding the achievement activity and its outcomes, activity and outcome that has a subjective value for them. These evaluations (control and value) are the proximal determinants of the emotions, but there are some individual distal antecedents that affect achievement emotions through the influence they have on control and value evaluations (for example, important distal antecedents are individual achievement goals, but also non-cognitive factors like temperament or genetic dispositions). The effects that emotions have on performance is mediated by factors like cognitive resources, motivation, or self-regulation. For example, (Pekrun et al., 2011) showed positive emotions are positively associated with academic control, self-efficacy and task value and negative emotions are negatively associated with the above factors. Pekrun et al. (2002) found that enjoyment, hope and pride are positively associated with interests, extrinsic and intrinsic motivation, general motivation for learning and self-reported academic effort. Negative emotions (anger, anxiety, shame, boredom, hopelessness) are negatively associated with these self-regulated learning factors. This study revealed that metacognitive strategies and the use of superior cognitive strategies in learning are positively associated with positive emotions (except relief). Also positive emotions are associated with perceived self-regulation and negative emotions are positively associated with external regulation. In the same manner, Pekrun et al. (2011), showed that negative deactivating emotions (boredom, hopelessness) are positively associated with external regulation of learning. In another study, Pekrun, Mayer, Goetz, Daniels and Stupinsky (2010) found that boredom coincides with attention problems, is positively associated with reduced intrinsic motivation and reduced overall learning motivation, correlates negatively with effort at studying, elaboration of learning material and perceived self-regulation of learning. Also, Zeidner (1998) found that test anxiety can reduce working memory resources and, consequently, impairs performance on difficult tasks.

The antecedents, the emotions and their effects on learning and performance are related through causal reciprocal linkages over time. As stated above, individual achievement goals can act as distal antecedents for achievement emotions. But the relation between goals and emotions is not a one-way relation. Affectivity can trigger different goal patterns for learning and achievement.

In order to integrate affect in the achievement motivation theory, Pintrich and Linnenbrink (2002) have elaborated a bidirectional, asymmetrical model of goals and affect. Their model focuses on state measures of affect (the term is used for both emotions and mood), this line of research being considered more appropriate than the trait measures approach. The only element considered for the valence of emotional states is the positive-negative distinction. Regarding the relation that moods have with achievement goals, Pintrich and Linnenbrink consider that moods, more than emotions, influence the way students perceive both the goal structure of the classroom and

the personal goal setting. Students in a positive mood will tend to set approach-type goals (they evaluate their resources as sufficient), and those in a negative mood tend to focus on avoiding unpleasant outcomes or can evaluate the classroom environment as threatening and, consequently will tend to adopt avoidance goals. Regarding the relation between goals and emotions, the author's basic assumption is that goals influence specific emotions, not general mood. Adopting mastery goals will determine a higher frequency of positive emotions while doing a task and a reduction of negative emotions. Adopting performance goals (approach) is not related with positive emotions, but tend to enhance negative emotions. Avoidance goals (mastery and performance) reduce positive emotions and enhance negative emotions. Goals can also have an indirect effect on emotional experience through the perception students have on the goals structure of the classroom environment. Students in mastery oriented classrooms will have higher rates of positive affectivity and those in performance oriented classrooms can experience both positive and negative emotions.

The relation stated by the authors is bidirectional because goals and affect tend to influence each other and is asymmetrical because the initial mood is related with adopting mastery goals, but not with performance goals. By contrast, in the terms of affect-goals relation, both mastery and performance goals predict affect. A series of correlational studies gave some empirical support for this model. It has been shown that the orientation to mastery goals (approach) is positively associated with pleasant affective states and negatively associated with unpleasant affective states (Linnenbrink & Pintrich, 2002, 2003, Linnenbrink, 2005). But the results were not equally clear for the relation between performance goals (approach) and affective states; Linnenbrink & Pintrich (2003) showed no relation, but another study showed a positive association (Linnenbrink, 2005). Beside this correlational studies, Linnenbrink and Pintrich (2001) conducted two experimental studies showing that adopting mastery goals is more easily influenced by affective states than adopting performance goals.

The reciprocal relation between achievement goals and achievement emotions is recently extensively studied within the framework of control-value theory of achievement emotions (Pekrun, 2006), this framework allowing to analyze these reciprocal relations with regard to discrete academic emotions. Regarding the influence that specific goal orientation have on the occurrence of discrete emotion, the research shows that mastery goals are positive predictors for enjoyment, hope and pride (Pekrun, Elliot & Maier, 2009; Daniels et al., 2009; Pekrun, Maier & Elliot, 2006) and negative predictors for boredom, hopelessness, anger and anxiety (Daniels et al., 2009; Pekrun, Elliot & Maier, 2009; Pekrun, Maier & Elliot, 2006). Performance approach goals are positive predictors for anger, hope and pride (Pekrun, Elliot & Maier, 2009) and for anxiety (Daniels et al., 2009). Performance avoidance goals are a positive predictor for test anxiety (McGregor & Elliot, 2002; Sideris, 2005), for anxiety, hopelessness and shame (Pekrun, Elliot & Maier, 2009), and negative predictors for hope and pride (Pekrun, Elliot & Maier, 2009).

In a reciprocal manner, Daniels et al. (2009) show that hope is a positive predictor for mastery goals and performance approach goals and that hopelessness is a negative predictor for mastery goals. Also, they showed a positive association between mastery goals and enjoyment and between performance goals and anxiety and a negative association between mastery goals and boredom and anxiety.

Recently, Pekrun et al. (2009) proposed a mediation hypotheses regarding the joint effects of achievement goals and achievement emotions on performance, with emotions as mediators of the relationship between goals and performance. They showed that hope and pride (positive outcome emotions) mediate the relation between all three types of goals and performance, anger, shame and hopelessness mediate the relation between mastery goals and performance and between performance avoidance goals and performance. Concerning anxiety, results show that it acts as a mediator in the relation between performance avoidance goals and performance. In the same manner, Daniels et al. (2009) showed that mastery goals have an overall positive effect on achievement through increased enjoyment and low anxiety and boredom. The indirect effect of performance goals on achievement is mediated by anxiety, suggesting that the effects of performance goals on achievement may be decreased by anxiety (Daniels et al., 2009)

Concerning the relations between emotions and academic performance, Gumora and Arsenio (2002) showed that, even if one controls for cognitive variables, achievement emotions and general emotionality are associated with academic success and predict academic performance. For example, negative achievement emotions are unique predictors of GPA on mathematics and English in their study.

Daniels et al., (2009) show that enjoyment positively predicts performance and boredom negatively predicts performance, the effect of boredom on achievement being even more accentuated than the effect of anxiety. Also, Pekrun et al. (2002) found that positive emotions (except relief) predict superior performances and negative emotions predict low performance (with a stronger prediction for deactivating negative emotions - boredom and hopelessness). In another study, Pekrun, Elliot & Mayer (2009) show that emotions substantially affect performance, over and above cognitive abilities and motivation measures. Positive activating emotions (enjoyment, hope, pride), especially those related to learning and to testing, are positively associated with GPA (Pekrun et al., 2011). Boredom and anxiety negatively predict achievement and enjoyment positively predicts achievement as measured by GPA (Daniels et al., 2009).

Pekrun, Meyer, Goetz, Daniels and Stupinsky (2010) show that boredom correlates negatively with student's perceived performance in terms of estimated current progress at learning and with performance assessed as GPA at mid-studies exams. It's worth mentioning that boredom can be both an antecedent and an outcome of impaired academic performance. Using a predictive design, the authors were able to demonstrate that boredom has a considerable incremental effect on performance adding to the effect of prior achievement, suggesting that this negative emotion has a substantial, negative influence on academic performance.

Current study

The current research aims to explore the achievement goals and achievement emotion of gifted students given the scarcity of empirical studies relating these two concepts in the context of giftedness. Few studies analyzed discrete achievement emotions of gifted students and, to our knowledge, there is no research that addresses the issue of the joint influence of achievement goals and achievement emotion on performance in a gifted population. Chan (2008) showed that gifted students in Hong Kong generally scored highly on learning goals, less highly on performance approach goals and lowest on performance avoidance goals and that learning goals are consistent significant predictors for achievement (measured in academic, nonacademic and social / leadership areas). Regarding achievement emotions, the research addressed discrete emotions issues especially related to the big-fish-little-pond effect (Marsh, 1987), ability grouping (Preckel, Goetz & Frenzel, 2010), and investigated boredom (Preckel et al., 2010), and test anxiety (Goetz, Preckel, Zweidner & Schleyer, 2008), but we found no research investigating achievement emotions in national competition contexts.

Aim of the current study

The current study aims to investigate the relations between achievement goals, achievement emotions and performance in a gifted sample participating at the National Chemistry Olympics in Romania. This study is exploratory in nature, since we began by adapting the AEQ for a Romanian population and investigated achievement emotions for the first time on a gifted population using this instrument. Our first purpose was to explore the achievement goals and the learning- and testing-related emotions that gifted students have prior to a national Olympics. Second, we wanted to investigate the relations between these two constructs and their influence on performance in the competition.

Participants and Procedure

Participants were intellectually gifted students (grades 8-12) participating at the National Chemistry Olympics in Romania. Two hundred and five students completed the Raven Progressive Matrices – Plus and our sample was identified as intellectually gifted based on scoring above the 90th percentile at this test. The identified sample consists of 135 participants (79 males). The achievement goals and learning related emotions were assessed one week prior to the first examination in the competition and the test-related scales were completed two days before the first examination. Performance data were obtained from the teachers at the end of the national competition.

Measures

Intellectual ability was measured using the Plus Form of the Raven Progressive Matrices, which has a better discriminant power for high-ability individuals. The RPM had been adapted for Romanian population using a sample of 2801 people and has a high internal consistency (0.91) and test-retest reliability (0.87).

Achievement Goals. We used the mastery-approach, performance-approach and performance avoidance scales of the Achievement Goals Questionnaire Revised (Elliot & Murayama, 2008) and the participants completed the items in the chemistry examination context. The fidelity coefficient are the following: performance approach ($\alpha = .80$), performance avoidance ($\alpha = .88$), Mastery Approach ($\alpha = .68$).

Achievement emotions. The learning-related and the test-related scales of the Achievement Emotions Questionnaire (Pekrun, Goetz & Perry, 2005) were used to assess participants emotions prior to the exam. We have adapted the instrument for the Romanian population using a two steps procedure (translation-retroversion).

The scales used assess the following emotions: learning-related enjoyment, hope, pride, anger, anxiety, shame and hopelessness and test-related enjoyment, hope, pride, relief, anger, anxiety, shame and hopelessness. Participants responded on a 1 (not at all) to 5 (very much) scale and the scores were summed to form the emotion indexes. The Alpha Cronbach coefficients range between .67 and .92 and are listed in Table 3.

Performance measure. Participants' final score on the two exam sections (theoretical chemistry evaluation and practical chemistry evaluation) was used to measure academic performance (scores range from 0 to 100).

Results and discussion

Achievement goals and achievement emotions

Table 1.

Descriptive Statistics of achievement goals

	N	Minimum	Maximum	Mean	Std. Deviation
Mastery Avoidance	129	3.00	15.00	10.97	3.02
Performance Approach	133	3.00	15.00	12.08	2.82
Performance Avoidance	134	3.00	15.00	10.62	3.50
Mastery Approach	133	7.00	15.00	13.43	1.85
Valid N (listwise)	127				

The descriptive statistics on the achievement goals show the tendency of gifted students to hold more approach than avoidance goals (for both mastery and performance orientations); mastery approach and performance approach goals have a mean of 13.43 and 12.08, respectively, as compared to 10.96 for mastery avoidance and 10.61 for performance avoidance. Similar results have been obtained by Chan (2008) on a sample of gifted Chinese students in Hong Kong and comes in line with current conceptualizations of giftedness that highlight the importance of motivational factors in addition to intellectual ones in developing expertise and for high performances.

Table 2.

Descriptive Statistics of achievement emotions

	N	Minimum	Maximum	Mean	Std. Deviation
LR Enjoyment	134	2.20	5.00	4.1284	.61
LR Hope	134	2.33	5.00	4.1343	.69
LRPride	134	1.17	5.00	3.9652	.77
LRAnger	134	1.00	3.67	1.5912	.60
LRAnxiety	134	1.00	4.18	1.8860	.69
LRShame	134	1.00	3.91	1.9430	.69
LRHoplessness	134	1.00	3.82	1.4993	.59
LRBoredom	133	1.00	4.45	1.8100	.77
TREnjoyment	134	1.30	5.00	3.3843	.77
TRHope	134	1.63	5.00	3.6595	.80
TRPride	134	1.00	5.00	3.4918	.88
TRRelief	133	1.00	5.00	3.3747	1.02
TRAnger	134	1.00	4.20	1.8791	.69
TRAnxiety	134	1.00	4.75	2.1032	.81
TRShame	133	1.00	3.80	1.8594	.67
TRHopelessness	134	1.00	4.64	1.4993	.63
Valid N (listwise)	131				

LR=Learning related, TR=test related

Regarding achievement emotions related to learning chemistry, the gifted sample shows a clear tendency on enhanced positive activating emotions related both to the learning activity (enjoyment) and its outcome (hope and pride) and decreased negative emotions related to the learning activity (boredom, anger) or its

outcome (anxiety, shame, hopelessness). Gifted students in this sample tend to enjoy more when learning chemistry (mean 4.12, SD=.61) and feel less boredom (mean 1.81, SD=.77) and anger (m=1.59, SD=.60). For the outcome of the learning activity they feel rather hope (m=4.13, SD=.69) and pride (m=3.96, SD=.77), than anxiety (m=1,88, SD=0,69) or hopelessness (1.49, SD=.59).

These results are in line with those obtained by Goetz, Preckel, Pekrun & Hall (2007) in a research investigating emotional experiences in relation to students abstract reasoning ability that showed enjoyment to be the predominant emotion for high ability students, while anger and anxiety are predominant for low ability students.

The analysis of the test-related emotions shows that gifted students participating at the National Chemistry Olympics have low rates of negative emotions: hopelessness (m=1.49, SD=.63), anger (m=1.87, SD=.69) and anxiety (m=2.10, SD=.81). The result is somehow surprising regarding test anxiety since the students were facing a highly competitive context and one would expect higher rates of this outcome-related emotion. Perhaps the high control beliefs these students hold given the achievement level in this subject matter influence the intensity of this emotion.

When compared with the non-gifted sample of Pekrun, Goetz & Perry (2005), the results maintain a general tendency toward enhanced positive emotions (enjoyment in preparing the examination, pride and hope) and lower negative deactivating (boredom, hopelessness) and activating emotions (anger, anxiety), as compared to the non-gifted population. This results can be related to the fact that high ability and high achievement in chemistry field (all students participating at his competition already had very high performances on the previous local ones) gave raise to high perceived control in learning and testing situations and to high subjective value of the competition situation and, subsequently, to more adaptive emotions. Another mechanism that can explain these results is that this gifted sample has better emotional regulation skills that allow enhanced control of negative emotionality. Such a hypotheses could be addressed by future research.

Table 3.

Comparison between gifted and non-gifted students (source: AEQ-The User s Manual)

	Non-gifted sample N=389	Gifted sample N=135	Non-gifted sample N=389	Gifted sample N=135	Non-gifted sample N=389	Gifted sample N=135
Scale	**alpha**	**alpha**	**mean**	**mean**	**SD**	**SD**
LR enjoyment	0.78	0.82	33.09	41.28	5.78	6.17
LR hope	0.77	0.83	20.27	24.81	3.70	4.20
LR pride	0.75	0.84	21.59	23.79	4.00	4.67
LR anger	0.86	0.84	22.00	14.32	7.04	5.43
LR anxiety	0.84	0.86	30.69	20.75	7.76	7.67
LR shame	0.86	0.85	29.00	21.37	8.32	7.61
LRhopelessness	0.90	0.88	23.06	16.49	8.09	6.52
LR boredom	0.92	0.92	30.69	19.91	9.29	8.54

	Non-gifted sample N=389	Gifted sample N=135	Non-gifted sample N=389	Gifted sample N=135	Non-gifted sample N=389	Gifted sample N=135
Scale	**alpha**	**alpha**	**mean**	**mean**	**SD**	**SD**
Test enjoyment	0.78	0.84	28.33	33.84	6.00	7.69
Test hope	0.80	0.85	25.91	29.27	4.93	6.42
Test pride	0.86	0.91	31.32	34.91	6.48	8.80
Test relief	0.77	0.85	21.59	20.25	4.00	6.14
Test anger	0.86	0.67	23.36	19.09	7.28	7.98
Test anxiety	0.89	0.88	45.54	25.24	13.00	9.82
Test shame	0.87	0.83	21.92	18.59	7.52	6.69
Test hopelessness	0.92	0.90	22.12	16.49	8.42	6.96

LR= learning related

Relation between achievement goals and learning related emotions

We first calculated the Pearson correlation in order to investigate the relations between goals and emotions and the results show that for this gifted sample's learning-related emotions have the strongest relations with mastery approach goals.

Table 4.

Relations between achievement goals and learning related emotions

	LR enjoyment	LR hope	LR pride	LR Anger	LR anxiety	LR Shame	LR Hopelessness	LR Boredom
Mastery approach	**.41**	**.37**	**.31**	**-.26**	**-.23**	**-.17**	**-.25**	**-.31**

	LR enjoyment	LR hope	LR Hope	LR Anger	LR anxiety	LR Shame	LR Hopelessness	LR Boredom
Performance approach	**.29**	**.32**	**.45**	-	-	-	-	-

All above coefficients are significant at $p<0.05$

The highest associations are those between mastery approach goals and enjoyment, hope and pride. Negative associations are reported for mastery approach goals and boredom, anxiety. Hopelessness, shame and anger. The results are in line with previous research and show that striving for competency development in learning chemistry is associated with more enjoyment in learning activity and with both prospectively and retrospectively emotions related to competence related activities. Regarding boredom, our result is in line with research that challenged the traditional views in educational literature that this emotion is attributed to

gifted students. For example, Roseman (1975, apud. Pekrun et al., 2010) found that bored students were overrepresented among middle-school students having IQ scores of less than 95 and that boredom correlated negatively with teacher ratings of student s academic ability. Pekrun et al. (2010) suggest that high competencies and perceived control can protect against boredom rather than making individuals susceptible to experiencing this emotion.

We then investigated the predictive utility of achievement goals for emotions using a regression analysis that revealed that mastery approach goals are a positive strong predictor for enjoyment F (132) =27.58, $p<0.01$. $\beta=0.41$), hope F(131) =20.80, $p<0.01$. $\beta=0.37$) and pride F(132)=14.34). $p<0.01$. $\beta=0.31$) and a negative predictor for anxiety (F(132) =7.82). $p<0.01$. $\beta= -0.23$), boredom (F(131) =14.33). $p<0.01$. $\beta= -0.38$), anger (F(132)=9.78). $p<0.01$. $\beta= -0.26$) and hopelessness (F (132)=8.88). $p<0.01$. $\beta= -0.25$). These results are in line with those obtained by Linnenbrink (2005), Pintrich (2000) and Pekrun, Elliot and Maier (2006). The later study showed that this relationship is strong even when controlling for social desirability, temperament or competence expectancy. Perhaps the mechanism through which mastery goals influence positive emotions (both related to the learning activity and its outcome) are linked to their effects on intrinsic motivation (Ames. 1992), appropriate help seeking behavior. deep processing of studying material that determine positive self-efficacy and adaptive attributional patterns related to learning (Elliot. 1999. Weiner. 1994 apud Alkharusi, 2010) and can sustain learning and performance and subsequently control and subjective values beliefs that determine positive emotions.

In our study performance approach goals positively predict enjoyment (F(132)=12.45). $p<0.01$. $\beta=0.29$). hope (F (132)=14.83). $p<0.01$. $\beta=0.32$) and pride (F(132)=34.89). $p<0.01$. $\beta=0.45$) but do not explain the variances in any negative emotions. This result is contrary with those in the Turner et al. study (1998) which found these goals to be positive predictors for negative affect. In the same manner, previous research showed that they can be predictors for anxiety (Daniels et al.. 2009) and anger (Pekrun, Elliot, Maier, 2009). This result may suggest that gifted students participating in the National Olympics hold multiple goals when facing this competition, being both mastery and performance oriented. The result is similar with Pintrich (2000) who showed that high performance and high mastery goals predict high positive affect in math.

One surprising result is the predictive utility of performance avoidance goals for pride, both learning and testing related. The result can be interpreted taking into account the fact that pride is a retrospective emotion (related to a past learning outcome).

Our data showed no association between performance avoidance goals and test anxiety. even though the relation had been constantly reported in the literature (McGregor & Elliot. 2001. Sideris. 2005. Eum & Rice. 2011). Further analysis on emotional regulation skills could explain this result.

Relation between achievement goals and testing related emotions

The only significant associations for the gifted sample are between approach goals (both mastery and performance oriented) and positive activating emotions:

Table 5.

Relations between achievement goals and testing related emotions

	Enjoyment	Hope	Pride
Mastery approach	**.28**	**.21**	**.31**
Performance approach	**.27**	**.26**	**.50**

All above coefficients are significant on $p<0.05$

The regression analysis shows the predictive value of performance approach goals and testing related emotions test pride ($F(132)=8.85$). $p<0.01$. $\beta=0.25$), hope ($F(132)=27.58$). $p<0.01$. $\beta=0.41$), test enjoyment ($F(132)=10.27$). $p<0.01$. $\beta=0.27$) and of mastery approach goals on test enjoyment ($F(132)=11.65$). $p<0.01$. $\beta=0.28$), test hope ($F(132)=10.84$). $p<0.01$. $\beta=0.27$) and test pride (F12.95). $p<0.01$. $\beta=0.30$). These results can be explained by a multiple goals framework, since students in this sample hold strong mastery goals and are facing a competition that uses normative evaluation standards that requires demonstrating the level of competency acquired.

Achievement goals and achievement emotions and their relation with performance on the National Chemistry Olympics

Previous findings clearly stated that emotions substantially affect performance, over and above the influence of cognitive ability and motivation (Pekrun, 2006) But in this specific context the relation is not supported by the data. Regarding achievement goals and their relationship with performance, the data are similar and no associations were found. These results may be due to the different variability in the scores of performance on one hand and of goals and emotions on the other hand. The gifted sample investigated here seems very homogenous regarding the goal patterns and achievement emotion patterns, but students' results varied more on performance attainment measures. Perhaps in the context of a national Olympics, the domain specific knowledge and skills play the major role for performance attainment and this students are more able than the non-gifted to better regulate motivational and emotional levels that can affect performance.

Limitations of the current study

Interpreting the results of this study must be done with caution since this research is exploratory in nature. When interpreting the results obtained here, one has to keep in mind that the current research is the first to investigate the achievement emotions of Romanian gifted students using a control-value theory framework.

With the exception of Goetz et al.'s (2007) study,we have found no research on achievement emotions for gifted population using AEQ. We did not postulate any specific hypotheses due to the scarcity of data and. to our knowledge. This kind of investigation is a premiere for a Romanian gifted sample. A limitation of this study concerns identification issues, since we have used the Plus form of the Progressive Raven Matrices and not taking a multidimensional approach on defining giftedness. A second important limitation comes from the use of self-report measures and all the biases that come with this type of methodological approach. Moreover, the time period between the assessment of achievement goals and achievement emotions might have been too small (three days only) and this particular issue might have influenced the predictive utility of achievement goals in their relation with emotions and performance.

Another important limitation of the current study comes from the small variability of the data collected from a preselected sample (high intellectual ability and high achievement in chemistry), that didn't allow for much statistical analysis procedures.

Conclusions

The current research investigated an intellectually gifted sample that proved to be very homogenous regarding the goal patterns related to achievement and achievement-related emotions. Our exploratory study suggests that gifted students participating in the National Chemistry Olympics hold multiple goals (both mastery and performance oriented) and experience more positive emotions related to both learning and testing than non-gifted students. They have lower negative emotions maybe because of the different patterns of control beliefs they have related to the learning activity and the value that they assign to it or maybe they have better emotional and motivational regulation skills that help them in managing learning and achievement activities. Further research should investigate this issue. Another future research direction could take into account other factors that proved to be important predictors of learning outcomes (e.g. self-regulated learning factors) in order to explain high performances of these students. Our study had an exploratory aim, but future research can address specific relations of the factors that can predict achievement. This line of research seems particularly important in order to gain more understanding of the factors that can sustain outstanding performances of gifted students.

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