

DOCUMENT RESUME

ED 456 422

CS 014 468

AUTHOR Kolic-Vehovec, Svjetlana; Bajanski, Igor
TITLE Children's Metacognition as Predictor of Reading
Comprehension at Different Developmental Levels.
PUB DATE 2001-00-00
NOTE 19p.
PUB TYPE Reports - Research (143)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Developmental Stages; Elementary Education; Foreign
Countries; *Metacognition; Predictor Variables; *Reading
Comprehension; Reading Processes; Reading Research
IDENTIFIERS Croatia; *Reading Fluency

ABSTRACT

The developing relation between children's knowledge about the goals and processes of reading, their skills to apply metacognitive strategies, and reading comprehension was examined. Participants were children in third-, fifth-, and eighth-grades in two primary schools in Rijeka, Croatia. All students were Croatian-speaking. A questionnaire of metacognitive reading knowledge and measures of comprehension monitoring during reading were applied in addition to measures of reading fluency and comprehension. Students in the eighth grade manifested better metacognitive knowledge of reading than students in the third and the fifth grades. Multiple regression showed that metacognitive self-monitoring during reading was significant predictor of reading comprehension at all three developmental levels. Besides reading fluency, which explained about 17% of variance, the only significant metacognitive predictor in third-grade students was cloze task, which explained additional 17% of variance, indicating that comprehension monitoring is possible only on the local processing level of reading. In the fifth- and eighth-grade students, self-monitoring played a more important role in reading comprehension than in the third grade. The cloze task and error detection task explained more than 25% of variance of reading comprehension. (Contains 20 references, and 2 tables and a figure of data.) (Author/RS)

Children's Metacognition as Predictor of Reading Comprehension at Different Developmental Levels

by Svjetlana Kolic-Vehovec and Igor Bajanski

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

S. Kolic - Vehovec

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Children's metacognition as predictor of reading comprehension
at different developmental levels

Svjetlana Kolić-Vehovec and Igor Bajšanski

University of Rijeka, Croatia

Abstract

The developing relation between children's knowledge about the goals and processes of reading, their skills to apply metacognitive strategies, and reading comprehension was examined. Participants were children in third-, fifth-, and eighth-grades. A questionnaire of metacognitive reading knowledge, and measures of comprehension monitoring during reading were applied in addition to measures of reading fluency and comprehension. Students in the eighth grade manifested better metacognitive knowledge of reading than students in the third and the fifth grades. Multiple regression showed that metacognitive self-monitoring during reading was significant predictor of reading comprehension at all three developmental levels. Besides reading fluency, which explained about 17% of variance, the only significant metacognitive predictor in third-grade students was close task, which explained additional 17 % of variance, indicating that comprehension monitoring is possible only on the local processing level of reading. In the fifth- and eight-grade students, self-monitoring played a more important role in reading comprehension than in the third-grade. The close task and error detection task explained more than 25 % of variance of reading comprehension.

Introduction

Reading can be regarded as a multidimensional activity including letter and word recognition, sentence processing and constructing meaning, but it also requires ongoing monitoring of comprehension and regulation of reading according to the goals of reading. Monitoring and regulation of reading are usually considered fundamental components of metacognition, besides metacognitive knowledge, which includes knowledge about one's self thinking, about different types of tasks and about reading strategies (Flavell, 1979; Baker and Brown, 1984; Paris et al. 1984).

Lomax and McGee (1987) identified five components related to early reading: concepts about print, graphic awareness, phonological awareness, grapheme-phoneme correspondence knowledge, and word reading. Children's performance increased with age on each of the tasks. Acquisition of concepts about literacy and pre-reading skills emerges by age 4 with progressive improvement later. Children's initial knowledge about the nature of reading was extensively researched. Hiebert (1981) found that 3-year-olds know something about sound/symbol correspondence and letter naming, but their awareness improves sharply between the ages of 3 and 4. Phonological awareness develops before entering school and showed as important predictor of later reading ability (Bradley and Bryant, 1983; Lundberg, Foost and Peterson, 1988).

Knowledge about reading continues to develop beyond the age 7. Johns and Ellis (1976) found that only 15 percent of the elementary school students defined reading as constructing meaning and most of those responses were from students in grades 7 and 8. Only 20 percent of students indicated that they tried to create meaning as they read and most of these responses also came from students in higher grades. More than 50 percent of the students emphasised word recognition as fundamental skill for reading.

Myers and Paris (1978) examined metacognitive knowledge of children between 8- and 12-year-olds and also found that older children knew more about text structure, various goals and reading strategies than younger children. Older children know more about using strategies to construct meaning and to resolve comprehension failures as well.

Knowledge about reading strategies is not sufficient guarantee that readers will read strategically. Reading strategies are cognitive tools that can be used selectively and flexibly. Strategic reading reflects metacognition and motivation because readers need to know the strategies and to have disposition to use them. Metacognition and strategic reading is manifested in various procedures that readers use to monitor comprehension. Baker and Brown (1984) argued that any attempt to comprehend must involve comprehension monitoring. Wagoner (1983) describes comprehension monitoring as "an executive function, essential for competent reading, which directs the readers' cognitive process as he/she strives to make sense of the incoming information" (p.328). Differences in the comprehension monitoring were consistently found between good and poor readers (Paris and Myers, 1981; Garner and Kraus, 1982; Grabe and Mann, 1984). Poor readers had difficulties identifying inconsistencies in the text.

There are also developmental differences in comprehension monitoring. Garner and Tylor (1982) asked second, fourth and sixth graders to find semantic inconsistencies in passages. Younger children did not find the errors in the passages spontaneously, and even older children had difficulty finding all inconsistencies. Baker (1984) obtained similar results with 9- and 11-year-olds. Nine-year-olds had difficulty detecting contradictions in story content.

Paris, Wasik and Turner (1991) summarised factors that contribute to the effects of age on comprehension monitoring. First, young children may not believe that there are mistakes in text. Second, attention capacity is engaged primarily in word understanding, and there are not enough cognitive resources left to construct meaning and monitor comprehension. Third, many young readers do not understand the standards that can be used to evaluate comprehension. Fourth, reporting comprehension failure is substituted by making inferences in order to construct sensible text interpretation.

Pazzaglia, Beni and Caccio (1999) investigated the relationship between both aspects of metacognition and reading comprehension in a sample of children from eight to 13 years. They have found a strong differentiation between declarative/procedural knowledge about text and strategies and on-line aspects of metacognition – comprehension monitoring and judgement on text parts importance. On-line aspects of metacognition showed a continuous positive developmental trend, even in secondary school and later. Both knowledge about goals and that about strategies showed a different developmental trend, with striking improvements for the former between eight to nine years, and eleven to twelve years, and for the latter between eight to nine years, nine to ten, and eleven to twelve years.

The first aim of this study was to explore developmental differences in metacognitive knowledge of elementary school students from third to eighth grade. Measure of metacognitive knowledge includes examination of reading awareness and knowledge about strategies. The second aim was to explore effects of both, metacognitive knowledge and comprehension monitoring as on-line aspects of metacognition, besides reading fluency as predictors of reading comprehension on different developmental levels.

Method

Participants

The participants in the study were 93 third-graders (47 girls and 46 boys) from five classes, 105 fifth-graders (58 girls and 47 boys) from five classes, and 83 eighth-graders (44 girls and 39 boys) from four classes. The study was conducted in two primary schools in Rijeka, Croatia. All students were Croatian-speaking.

Materials

Reading fluency and reading comprehension. Assessment was made on three different stories, one story for each grade. The stories were chosen according to the curriculum for each grade. The story for third grade had 750 words, for fifth grade 1310 words and for eighth grade 1520 words. Measure of reading fluency was computed as number of words read in one minute. Stories were followed by 15 questions. Measure of reading comprehension was the number of correct responses. Answers that were completely appropriate were awarded with two points. Partially correct answers were awarded with one point.

Metacognitive knowledge. A Croatian adaptation of the questionnaire constructed by Paris, Cross and Lipson (1984) was used for assessment of metacognitive knowledge about reading. The questions were about text structure, various goals of reading and reading strategies. The original 20-item questionnaire was shortened to 15 multiple-choice questions. Internal consistency of the Croatian adaptation of the questionnaire was $\alpha = .60$; $\alpha = .78$; $\alpha = .58$, respectively.

Comprehension monitoring. Close-task and sentence detection task were used as measures of comprehension monitoring. Three different forms of close task were constructed, one for each grade. The passages used to construct the different versions

were taken from readers for the corresponding grade level. In passages for third and fifth grade 13 words were missing, and for eighth grade 16 words. This created 13 or 16 blank spaces that children were required to fill in with single words. Children's close responses were scored according to the following procedure: (a) Responses that were both semantically and syntactically appropriate to the missing word were awarded 2 points; (b) responses that were either semantically or syntactically appropriate, but not both, were awarded one point; (c) blanks and responses that were neither semantically nor syntactically appropriate were not awarded any point.

In sentence detection task children read a story consisting of six passages. Each passage contained a sentence that was semantically inappropriate to the passage. Children were asked to underline the inappropriate sentence. Wrong detection was penalized by subtracting it from the number of errors detected correctly.

Procedure

All tasks were administered to children in their classrooms as intact groups during two school hours. The tasks were not time constrained.

Results

Differences in metacognitive knowledge between students in third, fifth and eighth grade were tested by one-way ANOVA, which showed a significant effect of grade ($F(2, 278) = 12.95$ $p < .001$) (Figure 1). Post-hoc comparison by Newman-Keuls test showed that eighth-grade students have a better metacognitive knowledge of reading than the third- and fifth-grade students.

Correlation between measures of metacognitive knowledge and measures of comprehension monitoring were computed for each grade. Significant correlations in third graders were found only between metacognitive knowledge and sentence detection task ($r = .58$), and in fifth and eighth graders for both monitoring tasks. The

correlation between metacognitive knowledge and close task was .53 for fifth-graders, and .35 for eighth graders, and between metacognitive knowledge and sentence detection task .35, and .22, respectively. Reading fluency was related to metacognitive knowledge ($r = .35$) and sentence detection task ($r = .26$) only in third graders.

Correlation of reading comprehension with reading fluency and metacognitive variables were also computed for each grade independently (Table 1). Reading fluency was significantly related with reading comprehension only for the third graders. Looking at measures of reading comprehension and metacognition, there are moderately strong relations among all measures. Comprehension monitoring, especially performance on the close task, was stronger related to reading comprehension than metacognitive knowledge.

Multiple regression analysis was performed for reading comprehension as the dependent variable, and reading fluency, metacognitive knowledge and comprehension monitoring as the predictor variables for each grade. Multiple correlation for the third grade was $R = .61$, for the fifth grade $R = .63$, and for the eighth grade $F = .56$ (Table 2). Significant unique contributors for the third grade were reading fluency (9.6 %) and close task (11.56 %), but for the fifth and eighth grades both comprehension monitoring tasks. Significant contributions of close task was 6.8 % in the fifth and 12.25 % in the eighth grade, and contributions of sentence detection task was 10.2 % in the fifth and 4.8 % in the eighth grade.

Discussion

Students in the eighth grade manifested better metacognitive knowledge of reading than students in the third and the fifth grades. Our results are similar to the results of Pazzaglia et al. (1999). Metacognitive knowledge showed improvement between fifth and eighth grades (eleven and fourteen years old students). Seemingly,

both development and reading experience contribute to metacognitive knowledge about reading. Knowledge about reading strategies is part of growing knowledge about reading. Preschoolers' emergent knowledge about literacy reflects incomplete concepts about the nature of reading, print conventions and processes, and purposes of reading. During elementary school, these concepts become more refined, but even older elementary school students do not have well-articulated concepts about reading nor fully developed knowledge about effective strategies to enhance comprehension. Children's knowledge about reading develops concurrently with their understanding and control of strategies, and these factors become congruent with increasing age and skill (Cross and Paris, 1988).

Metacognitive knowledge is related to comprehension monitoring, but moderate correlations showed that this knowledge is not sufficient guarantee that children will apply strategies. The relatively high correlation between metacognitive knowledge and sentence detection task in third grade students is somewhat surprising. This result could be explained by a significant correlation between reading fluency and sentence detection task indicating that more fluent reading allows checking units greater than word level. Students are more likely to develop metacognitive knowledge and apply strategies when a lower level cognitive skill (word encoding) has become automated. In fifth and eighth grades almost all students read more than 100 words per minute and fluency does not make any difference in sentence level processing. These results support Pazzaglia et al.'s (1999) multicomponential model of metacognition that differentiates between metacognitive knowledge and on-line aspects of metacognition. Local comprehension monitoring is more related to metacognitive knowledge than sentence detection. It is possible that higher level text processing has started to play a more important role in fifth grade than before.

Reading fluency is significantly related to reading comprehension only in third grade. Interindividual variability in reading fluency in third grade is large enough to produce a significant correlation. The speed at which words are recognized is still a critical factor in ensuring that children understand what they read. Automaticity in word recognition contributes to fluency. Fluency is important because it enables readers to spend their cognitive resources on understanding the text rather than on attempting to encode individual words. If students read the words in an inefficient manner, they cannot remember what they read and relate the ideas to their background knowledge, because of working memory capacity limitations. In fifth and eighth grade almost all students read fast enough and there is no significant effect of fluency on reading comprehension. In fifth grade, comprehension monitoring becomes more important than reading fluency.

Results of regression analysis also support the hypothesis that metacognitive variables, especially comprehension monitoring are considerably involved in reading comprehension (Paris and Myers, 1981; Vasniadou, Pearson and Rogers, 1988; Pazzaglia et al., 1999). Monitoring meaning in third grade students was not so important for text comprehension as in older students because their attention is directed at decoding and analyzing words' meaning. In fifth and eighth grade comprehension monitoring became a better predictor of reading comprehension than fluency. Comprehension monitoring in third graders is executed not only on word level, but also on sentence level, as can be seen from the significant contribution of sentence detection task to reading comprehension.

Metacognitive knowledge is not a significant independent predictor of reading comprehension, because its effect is mediated by on-line metacognition. Active usage of metacognitive strategies is more important for reading comprehension than merely

passive knowledge about strategies. Strategic reading reflects interactive effect of sufficient metacognitive knowledge, sufficient practice, adequate instruction about strategies and motivational factors. There are different reasons why children don't use strategies efficiently. Children often believe that the strategies will not make a difference in their reading because they perceive the reading task as too difficult and out of their control. Proper instruction about reading strategies, ways and conditions of their usage (Palincsar and Brown, 1984; Cross and Paris, 1988) could stimulate students for strategy usage and improve reading comprehension.

References

- Baker, L. (1984). Spontaneous versus instructed use of multiple standards for evaluating comprehension: Effects of age, reading proficiency, and type of standard. Journal of Experimental Child Psychology, 38, 289-311.
- Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson, M. Kamil, R. Barr & P. Mosenthal (Eds.), Handbook of reading research (vol. 1, pp. 353-394). White Plains, NY: Longman.
- Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read: A causal connection. Nature, 301, 491-521.
- Cross, D. R., & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. Journal of Educational Psychology, 80, 2, 131-142.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. American Psychologist, 34, 10, 906-911.
- Garner, R., & Kraus, C. (1982). Good and poor comprehenders' differences in knowing and regulating reading behaviours. Educational Research Quarterly, 6, 5-12.
- Garner, R., & Tylor, N. (1982). Monitoring and understanding: An investigation of attentional assistance needs at different grade and reading proficiency levels. Reading Psychology, 3, 1-6.
- Grabe, M., & Mann, S. (1984). A technique for the assessment and training of comprehension monitoring skills. Journal of Reading Behaviour, 16, 131-144.
- Hiebert, E.H. (1981). Developmental patterns and interrelationships of preschool print awareness. Reading Research Quarterly, 16, 236-260.
- Johns, J., & Ellis, D. W. (1976). Reading: Children tell it like it is. Reading World,

16, 115-128.

- Lomax, R.G., & McGee, L.M. (1987). Young children's concepts about print and reading: Toward a model of word reading recognition. Reading Research Quarterly, 22, 237-256.
- Lundberg, I., Frost, J., & Peterson, O. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. Reading Research Quarterly, 23, 237-256.
- Myers, M., & Paris, S. G. (1978). Children's metacognitive knowledge about reading. Journal of Educational Psychology, 70, 680-690.
- Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension fostering and monitoring activities. Cognition and Instruction, 1, 117-175.
- Paris, S. G., Cross, D. R., & Lipson, M. Y. (1984). Informed strategies for learning: A program to improve children's reading awareness and comprehension. Journal of Educational Psychology, 76, 6, 1239-1252.,
- Paris, S. G., & Myers, M. (1981). Comprehension monitoring in good and poor readers. Journal of Reading Behavior, 13, 5-22.
- Paris, S. G., Wasik, B. A., & Turner, J. C. (1991). The development of strategic readers. In R. Barr, M. L. Kamil, P. B. Mosenthal & P. D. Pearson (Eds.), Handbook of Reading Research (Vol. 2, pp.609-640). Mahwah, NJ: LEA.
- Pazzaglia, F., De Beni, R., & Caccio, L. (1999). The role of working memory and metacognition in reading comprehension difficulties. In T. E. Scruggs and M. A. Mastropieri (Eds.), Advances in learning and behavioral disabilities. (Vol. 13., pp. 115-134). JAI Press.
- Vasniadou, S., Pearson, P. D., & Rogers, T. (1988). What causes children's failures to detect inconsistencies in text? Representation versus comparison

difficulties. Journal of Educational Psychology, 80, 27-39.

Wagner, S.A. (1983). Comprehension monitoring: What it is and what we know about it. Reading Research Quarterly, 28, 328-346.

Author Note

The study is part of the project “Developmental aspects of reading comprehension” supported by Ministry of science and technology of Republic of Croatia.

Figure 1. Metacognitive knowledge in third, fifth and eighth graders

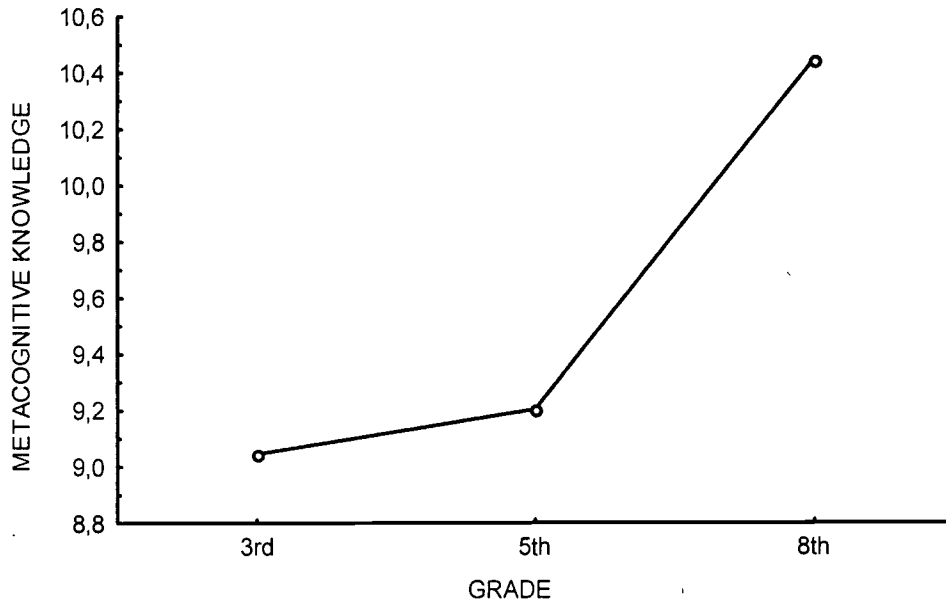


Table 1.

Correlation between reading comprehension, reading fluency, metacognitive knowledge and comprehension monitoring

| | Reading comprehension | | |
|-------------------------|-----------------------|-----------------------|-----------------------|
| | 3 rd grade | 5 th grade | 8 th grade |
| Reading fluency | .45** | .00 | .05 |
| Metacognitive knowledge | .36** | .32** | .33** |
| Close task | .51** | .54** | .49** |
| Sentence detection | .38** | .56** | .36** |

**p < .001

Table 2.

Results of regression analysis of reading fluency, metacognitive knowledge and comprehension monitoring tasks as predictors of reading comprehension

| Grade | Predictors | B | β | semipar. corr. | t |
|--------|-------------------------|-------|---------------------|----------------|--------|
| Third | Fluency | .06 | .34 | .31 | 3.87** |
| | Metacognitive knowledge | .29 | .10 | .08 | 1.02 |
| | Close task | .58 | .37 | .34 | 4.23** |
| | Sentence detection | .26 | .10 | .08 | .97 |
| | | R=.66 | R ² =.43 | F(5, 87)=13.39 | p<.001 |
| Fifth | Metacognitive knowledge | .05 | .02 | .02 | .24 |
| | Close task | .35 | .34 | .26 | 3.39** |
| | Sentence detection | .94 | .38 | .32 | 4.19** |
| | | R=.64 | R ² =.41 | F(5, 99)=13.55 | p<.001 |
| Eighth | Metacognitive knowledge | .71 | .15 | .14 | 1.51 |
| | Close task | .45 | .39 | .35 | 3.73** |
| | Sentence detection | .88 | .24 | .22 | 2.38* |
| | | R=.57 | R ² =.33 | F(5, 77)=7.43 | p<.001 |

*p<.05

**p<.001



U.S. Department of Education
Office of Educational Research and Improvement
(OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)



Reproduction Release
(Specific Document)

CS 014 468




I. DOCUMENT IDENTIFICATION:

| | |
|--|-------------------------------|
| Title: CHILDREN'S METACOGNITION AS PREDICTOR OF READING COMPREHENSION | |
| Author(s): SVJETLANA KOLIC-VEHOVEC AND IGOR BAJSANSKI | |
| Corporate Source: | Publication Date: 2001 |

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign in the indicated space following.

| The sample sticker shown below will be affixed to all Level 1 documents | The sample sticker shown below will be affixed to all Level 2A documents | The sample sticker shown below will be affixed to all Level 2B documents |
|--|--|--|
| PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) | PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY HAS BEEN GRANTED BY TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) | PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) |
| Level 1 | Level 2A | Level 2B |
|  |  |  |
| Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g. electronic) and paper copy. | Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only | Check here for Level 2B release, permitting reproduction and dissemination in microfiche only |
| Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1. | | |



I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche, or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

| | |
|---|---|
| Signature: <i>Skolnic Veljovic</i> | Printed Name/Position/Title: <i>Ph.D</i> |
| Organization/Address: <i>UNIVERSITY OF RIJEKA FACULTY OF PHILOSOPHY, RIJEKA CROATIA</i> | Telephone: <i>385/51 315 232</i> Fax: <i>385/51 315 228</i> |
| | Email Address: <i>skolnic@</i> Date: <i>24/9/2009</i> |

human.pafri.hr

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

| |
|------------------------|
| Publisher/Distributor: |
| Address: |
| Price: |

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

| |
|----------|
| Name: |
| Address: |

V. WHERE TO SEND THIS FORM:

| |
|--|
| Send this form to: ERIC Clearinghouse on Reading, English, and Communication (ERIC/REC). |
|--|

ERIC/REC Clearinghouse
2805 E 10th St Suite 140
Bloomington, IN 47408-2698
Telephone: 812-855-5847
Toll Free: 800-759-4723
FAX: 812-856-5512
e-mail: ericec@indiana.edu
WWW: <http://eric.indiana.edu>

EFF-088 (Rev. 9/97)