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THE IMPORTANCE OF SELF-ASSESSED ORAL AND WRITTEN LANGUAGE ABILITY FOR BOYS' AND GIRLS' GRADES IN SCHOOL

(KIZ VE ERKEKLERİN OKULDAKİ BAŞARI NOTLARI AÇISINDAN SÖZLÜ VE YAZILI DİL BECERİSİ ÜZERİNE ÖZ DEĞERLENDİRME YAPMALARININ ÖNEMİ)

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ABSTRACT

This study focuses on the way in which the self-assessed reading, writing and oral abilities of pupils – both boys and girls – predict grades in different subjects at compulsory school. The supporting material for this study is a survey, conducted to 6,788 pupils in school year 9 (aged 15-16) of Swedish compulsory school in 2003. The results show that the three literacy skills – reading, writing and oral ability – do predict the grades but that the weighting is slightly different in the various subjects. In Swedish it is the self-assessed ability to write that primarily predicts the grade, while, in the other theoretical subjects, it is the pupil's self-assessed reading ability that is predominant. There is a significant difference between how boys and girls assess their reading, writing and oral abilities. Girls demonstrate greater confidence in their ability to read and write. Boys, who feel that they have good oral ability, are at a disadvantage both in English and mathematics.

Keywords: Self-assessing, Literacy skills – reading, writing and oral ability, gender,

ÖZ

Bu çalışma hem kızlar hem de erkekler olmak üzere öğrencilerin okuma, yazma ve konuşma becerileri üzerine öz değerlendirmelerinin zorunlu okuldaki farklı derslerde alınan notları öngörme şekline odaklanmaktadır. Çalışmayı destekleyici materyal, 2003 yılında İsveç zorunlu okulunun dokuzuncu sınıfındaki (15-16 yaşında) 6,788 öğrenciye uygulanan bir ankettir. Sonuçlar okuma, yazma ve konuşmadan oluşan üç okuryazarlık becerisinin notları kestirmede etkili olduğunu ancak değişik konularda ağırlığın biraz farklı olduğunu göstermektedir. İsveç dilinde notları öngören temel olarak yazma becerisinin öz değerlendirmesiyken, diğer teorik konularda baskın olan öğrencinin okuma becerisini kendi kendine değerlendirmesidir. Kızların ve erkeklerin okuma, yazma ve konuşma becerilerini nasıl değerlendirdikleri arasında anlamlı bir fark vardır. İyi bir sözel becerisi olduğunu düşünen erkekler İngilizce ve matematikte dezavantajlı durumdadırlar.

Anahtar Sözcükler: Öz değerlendirme, Okuryazarlık becerileri- okuma, yazma ve konuşma becerisi, cinsiyet.

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INTRODUCTION

In the following study, attention is directed at how pupils, 15-16 years old, in year 9 of Swedish compulsory school, assess their reading, writing and oral abilities. We want to examine the significance that the self-assessment of these abilities has in relation to the grades which the pupils are awarded at the end of compulsory school. Other areas studied are whether there is any difference between boys' and girls' self-assessment of these abilities and whether there is any difference in how the assessment of the abilities predicts the grades for boys and girls in mathematics, Swedish and English. We begin the article by examining the importance of written language for achieving study success. This is followed by a discussion of research results regarding pupils' self-assessment in different respects, and its importance for succeeding at school.

Importance of Literacy Skills

There has recently been a succession of alarming reports of how Swedish pupils perform in school. The latest national and international comparative studies of pupils' literacy skills show that Swedish pupils perform less well than before and less well than pupils in some other countries (Skolverket 2004; PISA, 2004, PISA 2007). The international OECD PISA study shows, for instance, that 13% of Swedish pupils perform at the lowest level as regards reading comprehension. These pupils may end up having difficulties in present-day society where the ability to read is regarded as a prerequisite for being able to function in the industrial, information society that man has created (Riis & Jedeskog, 1997; Lundberg & Miller Guron, 2000).

The ability to read is part of what in literature and in school practice is called written language ability. Written language ability, in turn, is part of what in international literature is termed "literacy". The concept of literacy does not only include written language ability but also oral ability. Garton & Pratt (1989) express this by saying that literacy "means the development of spoken language and written language" (p. 1). This can be related to specific demands made on it, such as the ability to locate, interpret, integrate and process oral and written information. Demands are also made with regard to being able to communicate content and meaning with the surrounding world, both orally and in writing (Eriksson Gustavsson, 2002). A sufficient level of ability in these areas ensures that the individual can use that ability as a working tool in daily life: at leisure, at work and as a member of society (OECD, 1997, 2000). The International Adult Literacy Survey, IALS, an international comparative study, establishes that the ability to read, for instance, is clearly related to opportunities in life and to the individual's possibilities for exploiting them. Education provides a foundation for

continued development of reading ability, and the proportion of people with a low level of ability decreases the higher the educational level (OECD, 1995; Eriksson Gustavsson, 1998). In a school context, it is important for a pupil to have good reading, writing and oral abilities since it is by using these skills that the pupil acquires knowledge.

We intend in this study to examine what significance the pupil's self-assessment of different aspects of literacy has for the grades that the pupil gains in Swedish, mathematics and English. Our starting point is that literacy is comprised of three "literacy components": reading, writing and oral ability.

Written language skill – literacy – is, as has already been indicated, a combined, information-processing ability of which writing is one part (Smith et al, 1986). Writing is a central element of institutionalised communication with regard to its way of creating meaning and understanding, and its ability to convey this in a text (Säljö, 2000). It is not merely a tool for communication and for the individual's learning during schooling and further education, but also for use throughout life as part of a lifelong learning process. To be able to judge different aspects of a pupil's knowledge, the teacher often conducts some kind of assessment. The pupil usually makes some kind of presentation in writing to show his/her level of knowledge (Tholin, 2005). This can be in the form of homework, portfolios or tests.

Another aspect of literacy, as has already been mentioned, is oral ability. There are researchers who maintain that the most important learning environment is that of day-to-day interaction and natural conversation (Säljö, 2000). A teacher who converses with his or her pupils has the opportunity to assess the individual pupil's knowledge while giving feedback on what the pupil says (Emanuelsson, 2001). By giving the pupils possibilites to communicate their knowledge verbally, the teacher can find out, about the their understanding in different areas (Säljö, 2000; Airasien, 2005), their ability to take part in a discussion, their vocabulary, fluency of speech, and their anxiety about speaking in front of people (Airasien, 2005). According to the syllabuses for the various subjects in the National Curriculum (Läroplan för det obligatoriska skolväsendet, förskoleklassen och fritidshemmet, Lpo 94, 1998) it is clear that the different components of literacy have significance for the pupil's studies. Oral ability as well as written language ability are explicit goals in several subjects. For example, in *mathematics* it is said that pupils should be able to "explain and argue for their reasoning both in spoken and written language" (Utbildningsdepartementet [Ministry of Education], 1994, p. 33), in *English,* that pupils should be able to "take part in conversations and discussions, thereby expressing their own opinions" (Utbildningsdepartementet [Ministry of Education], 1994, p. 16) and in *history*, that the goal is for pupils to "develop the ability to describe courses of events and development in spoken and written language" (Utbildningsdepartementet [Ministry of Education], 1994, p. 26). In *physical*

education and health it is emphasised that pupils are to develop their "social skills", meaning the ability to empathise and communicate satisfactorily while performing team sports, for instance (Utbildningsdepartementet [Ministry of Education], 1994, p. 30).

To summarise, it can be said that written language ability - literacy - does seem to have significance in everyday life as well as in educatiob. Written language ability is socially desirable in society while also being an explicitly projected ability the national curriculum. The way in which pupils assess their literacy skill and the way in which this skill actually influences the pupils' grades are matters we will return to when presenting the results of our study.

Self-assessment – Study Results

> Self-perception is the conscious, overall picture the individual has of him- or herself, based on experience from many areas. This conscious picture of the self occurs and develops through social interaction. Self-perception consists of a descriptive dimension and an evaluating dimension. (Ahlgren, 1991, p. 27) (Translated from Swedish)

The evaluating dimension of self-perception – self-assessment – involves *an appraisal of qualities as well as performance.* The assessment is influenced by the individual's level of ambition and also by his or her interaction with other individuals. Different situations and different people in one's life affect self-assessment more or less significantly on account of their having different values for the individual (Ahlgren, 1991, Harter, 1999, 2006). Values relating to areas that are important for the individual tend to be more constant than values relating to less important areas. Taube (1989) describes self-assessment as a shell with different thicknesses depending on the importance of the area to the individual. She holds, for instance, that a pupil's self-perception and self-assessment regarding performance at school can vary depending on subject, teacher and group.

In her thesis on *pupils' self-assessment*, Ahlgren focuses on and defines self-assessment in the school context as "the positive or negative attitude that the individual has towards his or her own person" (Ahlgren, 1991, p. 34). The assessments are related to the school environment and pertain to the individual's abilities and performance in themselves, but also in relation to other pupils' abilities and performance. In the study (Ahlgren, 1991), the pupils (years 4, 6 and 8 of compulsory school) assess their abilities from physical, theoretical, practical and social aspects. The results demonstrate that pupils with high self-assessment have better cognitive prerequisites as well as more positive experiences of their school performance than pupils with low

self-assessment. In the same way, pupils with high self-assessment are slightly more ambitious than those with low self-assessment.

When comparing boys and girls it was apparent that, in spite of the girls' better cognitive prerequisites on average and their more positive experience of school performance, they demonstrate lower self-assessment as pupils than boys (Ahlgren, 1991). An open appraisal of pupil performance is common at school, which means that the boys' assessment as pupils is defined and confirmed, while the girls' need for acceptance in the emotional and social area is not satisfied to the same extent. As a comparison, results from studies by Golombok and Fivush (1994) can be mentioned. They claim that boys are praised for their knowledge when they answer questions correctly, while girls are rewarded for obedience. The opposite applies to criticism. Boys are criticised for their behaviour while girls, to a greater extent, are criticised for knowledge shortcomings.

In her study, Ahlgren (1991) also indicates that whole groups or classes with high self-assessment have good prerequisites for, and also more positive experience of, their school work than classes with low self-assessment. In the same way, the level of ambition is higher in the former classes than in the latter. These results demonstrate the importance of the school environment and of classmates for each individual's self-perception and self-assessment, and this has subsequently been confirmed by Harter (1999, 2006).

Girls in general perform better than boys in many different areas at school as demonstrated by the National Evaluations (Skolverket, 2004). The PISA surveys (2004, 2007) indicate clearly, for instance, girls' better results in reading comprehension. We now know that girls are more visible players in the classroom than was previously the case (Öhrn, 2002). This can be due to girls feeling more self-assured in respect of their knowledge as well as their behaviour. Better confidence and a positive degree of self-perception could, in turn, result in them making their presence felt more in the classroom and, thus, acquiring better chances for approval.

In this section, which highlights self-assessment in relation to being a pupil, we describe how self-assessment affects studying but also what factors that may affect the pupil's self-assessment in different areas. In this study, we will henceforth limit ourselves to discussing self-assessment of different literacy components and their significance for the pupil's school achievement as measured by the grades given at the end of school year 9 in Swedish, English and mathematics.

Purpose

We want in this study to focus on pupils' self-assessment as regards their reading, writing and oral abilities in relation to grades in certain subjects. *Our first hypothesis is that there is a link between how pupils assess, on the one*

hand, their reading, writing and oral abilities and, on the other hand, grades in different subjects. Another aspect we want to examine in relation to the first hypothesis is the strength with which the three components predict a pupil's grade in a subject.

In the review of literature we indicated that previous research had revealed that girls make a lower assessment of their ability regarding over all school performance than boys. We know today, however, that girls are occupying the classroom's public arena to a greater extent than before, which might be a sign of increasingly high self-assessment. *Our second hypothesis is, therefore, that one reason for girls performing better than boys is that girls assess their specific reading, writing and oral abilities more highly than boys.We would also like to see the strength with which the three specific literacy components predict grades for boys and girls respectively in the core subjects of mathematics, English and Swedish.*

METHOD

To be able to verify or refute the above hypotheses, information is needed about pupils' self-assessment with regard to reading, writing and oral abilities, and about pupils marks. This information has been obtained from a national survey study that included 120 schools and 6,788 pupils in school year 9 (15-16 years old). Data were obtained from comprehensive questionnaires administered by the National Agency for Education. Pupils in school year 9 answered questions related to different subjects. In a questionnaire in the subject Swedish, the pupils had to assess how they had coped with a number of tasks. The questionnaire contained about one hundred statements that were to be answered. In this case, we have limited ourselves to those questions that refer to the pupil's self-assessment, with a focus on reading, writing and oral presentation. Eighteen questions referred to the pupil's self-assessment in these areas. The pupils were to give their opinion on the statements on a four-point scale (1=Very bad, 4=Very good).

A factor analysis of the eighteen questions resulted in three themes, i.e., regarding reading ability, writing ability, and oral ability. It emerged, however, that four of the questions were difficult to place; in other words, they correlated relatively weak with two of our themes. We decided to remove those questions and conduct a new factor analysis with 14 questions. The result of this analysis revealed that 58% of the variance was explained by three factors. The oral factor (eigenvalue 5.7) accounted for 40 per cent of the variance, while written language ability (eigenvalue 1.5) explained 11 per cent of the variance. Finally, it was apparent that reading ability (eigenvalue 1.1) made up 7 per cent of the variance. To calculate the different literacy factors, the test coefficient was multiplied by the respective question that correlated

with the factor. The mean value was calculated for the questions that correlated with the respective factor. *Oral ability* is defined in this study on the basis of how the pupil assesses his or her ability to (a) present work orally, (b) conduct conversations and plan work, (c) evaluate and conduct discussions in class, (d) offer ideas about classmates' work, and (e) express their opinion. Characteristic for *written language ability* is how the pupil manages to (a) write without making spelling mistakes, (b) write without making grammatical errors, (c) write their own stories, (d) do a hand-in assignment, and (e) write clearly by hand. The factor that we have designated *reading ability* is defined on the basis of how well the pupil perceives that he or she can read (a) a newspaper, (b) short stories and articles, (c) a text book, and (d) a work of fiction.

The following four questions gave low correlations, (<.40), were near two factors, and were, thus, removed; How successful are you at keeping minutes of a meeting at, for example, school? How good are you at writing news for a newspaper? How good are you at understanding Danish and Norwegian? How successful are you at writing in order to express your own thoughts?

Table 1. Questions Related to the Three Factors: Reading, Writing and Oral Ability

Question	Test coefficient		
	Oral	Writing	Reading
1) How good are you at presenting a piece of work orally?	**.72**	.11	.08
2) How good are you at conversing in class in order to plan work?	**.75**	.21	.14
3) How good are you at evaluating and discussing films you have seen?	**.70**	.17	.23
4) How good are you at giving your views on classmates' texts?	**.69**	.23	.13
5) How good are you at giving your opinion orally?	**.75**	.05	.28
6) How good are you at writing without making spelling mistakes?	.08	**.82**	.18
7) How good are you at writing without making grammatical errors?	.20	**.79**	.18

8) How good are you at writing stories of your own?	.40	**.47**	.14
9) How good are you at doing hand-in assignments?	.40	**.46**	.25
10) How good are you at writing neatly by hand?	.12	**.59**	.22
11) How good are you at reading the news in a newspaper?	.16	.16	**.84**
12) How good are you at reading a short story or an article in a magazine?	.18	.26	**.81**
13) How good are you at reading a text book?	.29	.24	**.68**
14) How good are you at reading a work of fiction?	.21	.44	**.51**

Data Analysis

To be able to respond to our first hypothesis, whether the components of literacy are in any way related to grades, a number of regression analyses (ANOVA) have been performed. The analyses made it possible to see whether there was a connection between the independent variables (our literacy components) and the dependent variable (grade) in the different subjects. The regression equations also enabled us to see the strength *(standardised beta value)* with which the different literacy components influence grades in the subject. Due to the large number of tests that the computer carries out in regression analyses, and the number of informants participating in the study, relatively minor correlations can be significant. We have therefore chosen a somewhat stricter significance level than the usual $p<.05$. Subsequently, we will only consider significances where $p<.001$.

Our second hypothesis dealt with how two different groups, boys and girls, differ as regards self-assessment of their reading, writing and oral abilities. To be able to comment on whether there was a difference between boys and girls, a T-test was performed in which mean values were compared. Due to our large sample, the significance level was once again set at $p<.001$. Even that significance level, however, can involve problems when comparing the different groups. On account of the large sample, relatively small, unimportant differences between the groups can become significant. To avoid these problems, a Cohen's d test was performed. Using Cohen's d, the researcher can find out the effect with which the difference is significant. Cohen's d values with an effect size of less than .3 are regarded as small. We have therefore chosen only to comment henceforth on those effects that are

greater than .3. For this reason, regression analyses (ANOVA) were conducted on boys and girls respectively in mathematics, English and Swedish. The purpose was to discover the strength *(standardised beta value)* with which the different factors influenced the grade outcome for boys and girls in the three subjects.

RESULTS

Relation of Literacy Components to Grades

Our first hypothesis is that there is a link between, on the one hand, how pupils assess their reading, writing and oral abilities and, on the other hand, their grades in Swedish, mathematics and English. The regression analyses indicated clearly that there is a significant, guaranteed correlation between the three literacy components and grades in the subjects we examined. In those subjects, the regression coefficients varied between R=.26 and R=.41. This means that three factors explain between 7 and 17 per cent of the variation in the grades. The multiple regression coefficients are as follows: mathematics R=.26, F(3.5495)= 136.60, English R=.39, F(3.5495)=323.59, p<.001, Swedish R=.41, F(3.5417)=365.75, p<.001.

Looking at the languages, English and Swedish, it can be noted that the regression coefficients are somewhat higher for both languages than for mathematics; for English R=.39, and for Swedish R=.41. The literacy components, thus, have a greater explanatory value regarding the grades in languages than in mathematics.

To summarise it can be stated that there is a correlation between the pupils' self-assessment of their written language ability and their grades in the subjects we examined. The components seem to have the highest explanatory value in respect of grades in languages. The significance that the different components have with regard to the pupils' grades is presented in the next section of the presentation of results.

Weight of Literacy Components in Predicting Grades

An overview of all the subjects we have examined shows that it is principally the pupil's self-assessed reading and writing abilities that seem to have an influence on grades. The literacy component that has the greatest influence on grades is how the pupils assess their reading ability. Next is how pupils assess their ability to write. The relation between these factors differs somewhat, however, depending on the subject in focus. Pupils' assessment of their oral ability only has significant influence on grades in three subjects: physical education & health, music and crafts.

In *mathematics*, the standardised beta value for pupils' self-assessed reading ability is approximately twice as great as for the perceived ability to

write. This means that a pupil's self-assessment of his or her ability to read has a higher prediction value as regards which grade the pupil will be awarded in mathematics than the self-assessed ability to write.

Table 2. Standardised Beta Coefficients for Self-assessed Reading, Writing and Oral Ability and Grades in Swedish, Mathematics and English

Ability	Sw		Ma		Eng	
	Beta	t-value	Beta	t-value	Beta	t-value
Oral	.00	.03 ns	-.04	-2.52 ns	-.04	-2.37 ns
Writing	.27	15.94***	.12	6.80***	.23	13.48***
Reading	.18	11.38***	.20	11.73***	.23	14.15***

* p<.05; ** p<.01, *** p<.001

The languages differ from mathematics in that, in Swedish, the self-assessed writing ability (.27) is more important for the grade than the self-assessed reading ability (.18). The assessed reading ability in English is of equal importance for the grade as the writing ability.

To summarise, it can be stated that reading ability is the factor that has the greatest prediction value for grades in mathematics and that the way in which pupils assess their writing ability is slightly more important in Swedish and English. Pupils who perceive themselves to be good at oral expression do not, according to these results, benefit from that ability in their efforts to acquire good grades in Swedish, mathematics, and English.

Gender Differences in Self-assessment of Literacy Components

Our second hypothesis was that, with regard to reading, writing and oral ability, girls assess their own ability more highly than boys. Mean values, standard deviations and effect sizes are presented in Table 3. A comparison of boys' and girls' mean values as regards their self-assessment of our literacy components shows that there is a significant difference for all three components. The dominant pattern is that girls value both their reading ability, their writing ability and their oral ability more highly than boys. According to Cohen's effect test, *d*, self-assessed reading and writing abilities are the only factors with an effect size above .3. These will be considered in the concluding discussion.

Table 3. Mean Values, Standard Deviations and Effect Size of Boys' and Girls' Self-assessment of Reading, Writing and Oral Ability

Ability	Boys		Girls			
	M	SD	M	SD	t-value	Cohen's d
Oral	2.22	.41	2.32	.39	8.9***	.24
Writing	1.91	.38	2.09	.32	18.8***	.49
Reading	2.36	.44	2.52	.38	14.5***	.38

* p<.05; ** p<.01, *** p<.001

The Predictive Values of Literacy Components for Girls' and Boys' Grades in Mathematics, English and Swedish

The regression coefficients for boys as well as girls show that the literacy components together have a significant influence on grades in both mathematics, Swedish and English. The multiple regression coefficients are as follows for boys, in mathematics R=.27, F(3.2715)=73.60, p<.001, in Swedish R=.36, F(3.2672)=132.14, p<.001, and in English R=.36, F(3.2715)=132.76, p<.001. For girls, the regression equations are as follows, in mathematics R=.28, F(3.2775)=77.50, p<.001, in Swedish R=.40, F(3.2740)=172.93, p<.001, and in English R=.40, F(3.2775)=172.77, p<.001. If we look at the R-value, we can see that the explanatory value for the three literacy components in respect of grade results in the three subjects is somewhat higher for the girls than for the boys.

An overview of mathematics, Swedish and English shows that the boys' assessed reading ability has the greatest significance for grade results in all three subjects. The case is somewhat different for girls. In all subjects, their perceived writing ability is more important for the grade results than the other two literacy components. In two cases – for boys in mathematics and English (Table 4,5) – it appears that self-assessed oral ability has a significant influence on grades.

In *mathematics*, it is mainly the assessed reading ability (.27) that influences boys' grades (Table 4). The self-assessed reading ability predicts the grade three times more than the assessed writing ability (.09) for boys Table 4). If we look at the assessed oral ability, we can see that it has a negative effect (-.11) on boys' grades. A boy who perceives himself to be good, for instance, at presenting work orally, conducting a conversation in class and expressing an opinion verbally, is at a disadvantage in mathematics when grades are awarded. As far as girls are concerned, the results show that both the self-assessed reading ability and the assessed writing ability have a significant influence on grades in mathematics. Girls' assessed writing ability

(.18) is slightly more important than their assessed reading ability (.13) in mathematics. If we compare boys and girls, we can see that boys' assessed reading ability is twice as important for the grade as that of girls, while girls' assessed writing ability is twice as important for the grade as boys' assessed writing ability.

Table 4. Standardised Beta Coefficient for Self-assessed Reading, Writing and Oral Ability for Boys and Girls and Grades in Mathematics

Ability	Boys (ma)		Girls (ma)	
	Beta	t-value	Beta	t-value
Oral	-.11	-4.05***	.00	.22 ns
Writing	.09	3.51***	.18	7.8***
Reading	.27	11.2***	.13	5.64***

* p<.05; ** p<.01, *** p<.001

As regards the languages, *English and Swedish*, the assessed reading ability has a greater, almost twice as great, explanatory value for grades for boys as compared to girls (Table 5). For boys, the prediction values are (.27) in English and (.25) in Swedish, while for girls they are (.19) in English and (.11) in Swedish. The assessed writing ability influences girls' grades (.26) in English and (.29) in Swedish, somewhat more than boys' (.20) in English and (.19) in Swedish. One conclusion from the above findings is that girls' assessed writing ability has a higher prediction value than the assessed reading ability, while the relation is the opposite for boys. Once again, boys' self-assessed oral ability (-.10) has a negative influence on the grade result, for English in this case.

Table 5. Standardised Beta Coefficient for Self-assessed Reading, Writing and Oral Ability for Boys and Girls and Grades in English and Swedish

Ability	Boys (En)		Girls (En)		Boys (Sw)		Girls (Sw)	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Oral	-.10	-3.63***	.01	.56ns	-.05	.-1.97ns	.07	3.21**
Writing	.20	7.66***	.26	11.43***	.19	7.33***	.29	12.83***
Reading	.27	11.38***	.19	8.51***	.25	10.44***	.11	4.82***

* p<.05; ** p<.01, *** p<.001

To summarise, there is a significant difference between how boys and girls assess their reading, writing and oral abilities. Girls demonstrate a more positive assessment of their reading and writing abilities. It is also apparent that the assessed writing ability has more significance with regard to girls' grades than the assessed reading ability, while the situation is the reverse for boys. It is also interesting to note that boys who feel confident about their oral ability are at a disadvantage when grades are awarded in two out of three core subjects, mathematics and English.

DISCUSSION

Significance of literacy components for grades in different subjects

The demands for written language ability have shown a marked increase in recent decades. To be able to read, write and express oneself verbally is becoming more and more desirable as well as necessary as the amount of written information in society increases (Riis & Jedeskog, 1997; Lundberg & Miller Guron, 2000). In order to absorb information, take a stand on issues and thus make one's voice heard in democratic processes, it is necessary that the individual has a good level of written language ability. We also know that education beyond basic level presupposes well developed literacy skills (Eriksson Gustavsson, 2002). Our study supports this line of reasoning as it is apparent that the three literacy components – the pupil's assessed reading, writing and oral abilities – have a significant influence on grades in both Swedish, mathematics and English. That this is the case is not particularly remarkable, we feel, as it is through reading that the pupils absorb a significant amount of what has to be learnt, while at the same time they demonstrate their knowledge in written as well as oral contexts (Airasien, 2005). Our study shows that, indirectly, pupils who feel confident about their abilities have a greater chance of obtaining a better grade in all subjects in compulsory school. The explanatory values for our three factors as regards grades are relatively small, between 7 and 17 per cent. Supported by Davies & Thomas (1989), we are nevertheless of the opinion that it is of the utmost importance to try to develop the pupils' confidence in themselves as readers, writers, and speakers, since even minor improvements in these areas can form a basis for enhanced learning. In didactic contexts, the concept of *beliefs* is discussed, i.e., the pupils' confidence in their ability. Whithin the field of didactics of mathematics there are several studies indicating that a pupil's *beliefs* can have a decisive significance in the pupil's learning of mathematics. *Beliefs* in relation to the literacy components are not only important for learning but also for what it is possible to learn in several subjects.

Although the above findings could be regarded as somewhat trivial, it may be of interest to examine the weight with which different literacy components influence the outcome, i.e., the grades in the school subjects we

have examined. If we look at the subjects in question it emerges that it is principally the assessed reading ability that predicts grades in mathematics. Reading helps to further develop the ability to read, with reading thus becoming a tool for seeking information and acquiring knowledge. In mathematics, the pupil's self-assessment of reading ability has a higher prediction value for the grade in the subject, than the assessment of writing ability. Through reading and good reading comprehension, the pupil creates possibilities for dealing with questions and solving problems. The rhetoric about mathematics being a communicative subject, in which conversations and discussions are tools for understanding and problem solving, is not evident in the pupils' assessment of abilities that can be important for mathematical learning and development. Can the structure and organisation of mathematics teaching emphasise the significance of oral communication in creating meaning and understanding? Is the teaching of mathematics conducted with the pupils calculating in their exercise books, individually and in silence? Is knowledge usually assessed with written tests?

Tradition, both with regard to teaching structure and subject character, can possibly explain pupils' different assessment of their own literacy abilities. Swedish as a subject is, for many pupils, often associated with spelling and grammar, and this could be one reason for the assessment of writing ability having a greater prediction value for grades than that of reading ability. The expression of writing ability – self-produced texts – is perhaps also easier for the teacher to assess. The written text "remains" while, in contrast, a reading error is not preserved for subsequent scrutiny. Pupils' experience is that spelling errors are more revealing than reading errors (Eriksson Gustavsson, 2002). The assessed oral ability does not predict the grade in Swedish, and we interpret this as meaning that the rhetoric about the polyphonic, dialogical classroom (Dysthe, 2000) does not appear to have any impact on classroom practice. The written word, according to Dysthe (2000), has higher status than the spoken word. One explanation for this could possibly be that everyone can talk but writing has to be learned.

Assessed oral ability has not had any significant effect on grades in any of the subjects examined. This seems strange to us. In the introductory text we indicated that a well developed oral ability is an explicit goal in mathematics as well as English (Utbildningsdepartementet [Ministry of Education], 1994). This should result in teachers using different types of presentations where the pupils demonstrate their oral ability. Our factor should thus be reflected in the grade. On the basis of these findings, the view of mathematics as a communicative subject can, however, be open to discussion. With regard to English, we are even more surprised. In English, pupils have to practise expressing opinions, which was one of the questions in our oral factor. Certainly, the question referred to the Swedish language, but there ought to be a certain degree of transfer.

Gender differences relating to self-assessed reading, writing and oral ability

There is now discussion in the wider social debate as to why boys increasingly lag behind girls in the traditional "girl subjects", such as languages, while girls are starting to perform equally well or better than the boys in subjects which have previously been traditionally "boy subjects", such as mathematics. We believe that one explanation can be found in our results. Girls today assess their literacy abilities significantly higher than boys assess theirs. Previous research has shown that girls in school generally assess their own ability lower than boys (Ahlgren, 1991). This situation has in the past decade been given attention, not least in gender research (Öhrn, 2002). One finding in the gender research, i.e., that girls are at a disadvantage in the classroom, could have resulted in girls, to a greater extent than before, attracting attention on account of their proficiency and thus gaining more confidence in their own ability in comparison with the boys. This line of reasoning is somewhat contradictory to previous research (see Golombok & Fivush, 1994), which claims that boys are rewarded for their knowledge and girls for their behaviour. We do assert, however, backed by Öhrn (2002), that girls today make their presence more noticed in the classroom and this can be an expression of greater self-confidence. Making their presence noticed leads to greater possibilities for approval (Ahlgren, 1991) and for the girls to be rewarded for their knowledge. As we see the situation, therefore, girls are more "visible" in the classroom, and this has been important for their self-assessment of the different literacy components.

According to our results, reading is assessed more highly among boys than among girls, while the opposite applies to writing. One can only speculate on the reasons for this, but the thought does occur that the well-developed psychomotor skills and neat handwriting that girls often possess may be a factor during assessment. Is it form, rather than content, of the texts produced that is judged and, if so, would this benefit the girls and cause them to assess writing ability more highly?

Boys' assessment of oral ability does not seem to be a factor that can influence the grades in a positive way, neither in mathematics nor in English. One explanation, which has already been presented here, could be that these two subjects are not sufficiently communicative for boys, who think they perform well orally, to get a chance to prove this. Another explanation could be that the teacher silences boys with the ambition of helping the girls, and yet another reason is that boys' oral attempts are regarded more as being disruptive than as a way of presenting and sharing knowledge.

Didactic implications

The results of the study have implications for school practice. On the basis of the results we would like to formulate a number of tasks for teachers in schools.

a) Teachers need to work on pupils' confidence in their own written language ability as this is significant for the pupils' studies in all subjects. As regards mathematics, pupils' confidence in their own ability is an explicit goal in the syllabus. The importance of written language ability both in everyday life and in educaion cannot be underestimated, which means that pupils' confidence in their written language ability should perhaps be an overall goal in every syllabus.
b) Teachers ought to give particular attention to boys, since they have less confidence in their ability to read and write than girls. This is important as pupils' assessment of their literacy abilities is *one* factor that influences grades in compulsory school.
c) Representatives of the communicative subjects mathematics and English should give thought to the way in which the oral aspect of literacy is expressed in the teaching and in the assessment of the pupils' ability in the subject. Our results show that this aspect of literacy does not seem to influence grades other than negatively, and this is particularly true as regard boys.

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