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| Abstract | The study reported here analyzed Hebrew texts written by 37 7th graders from middle-high SES and 28 7th graders from a low-SES background in order to determine their abilities in writing personal-experience narratives and expository texts on the theme of success and failure. Measures, designed to be age-appropriate as well as genre- and theme-sensitive, related to four textual properties: text size, text content, text structure, and text cohesion. Our findings indicate that Israeli 7th graders of both SES backgrounds are able to produce appropriate personal-experience narratives in terms of text quality and structure. While expositions have not yet caught up with narrative abilities in terms of content quality and conceptual density in this age group, they host richer, denser linguistic expression and their structure predicts good narrative content. The ability to produce a well-proportioned expository was found to predict narrative content. However, 7th graders from low SES background were found to lag behind their high SES peers in gaining command of expository text production. Specifically, better text proportions were found to predict text quality more in high SES than in low SES texts, while better demarcation in one genre predicted better content in the other genre, but only in the high-SES texts. These findings call for special focus on expository reading and writing in educational programs targeting students from deprived backgrounds. |
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# Top-down Measures in 7th Grade Writing: The Effects of Genre and SES

**Dorit Ravid, Tsila Shalom, Elitzur Dattner, Irit Katzenberger, and Guy Sha'ashua**

**Abstract**  The study reported here analyzed Hebrew texts written by 37 7th graders from middle-high SES and 28 7th graders from a low-SES background in order to determine their abilities in writing personal-experience narratives and expository texts on the theme of success and failure. Measures, designed to be age-appropriate as well as genre- and theme-sensitive, related to four textual properties: text size, text content, text structure, and text cohesion. Our findings indicate that Israeli 7th graders of both SES backgrounds are able to produce appropriate personal-experience narratives in terms of text quality and structure. While expositions have not yet caught up with narrative abilities in terms of content quality and conceptual density in this age group, they host richer, denser linguistic expression and their structure predicts good narrative content. The ability to produce a well-proportioned expository was found to predict narrative content. However, 7th graders from low SES background were found to lag behind their high SES peers in gaining command of expository text production. Specifically, better text proportions were found to predict text quality more in high SES than in low SES texts, while better demarcation in one genre predicted better content in the other genre, but only in the high-SES texts. These findings call for special focus on expository reading and writing in educational programs targeting students from deprived backgrounds.

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## 1 Introduction: Writing

The written mode of expression occupies a privileged cognitive position in language, a "special mode of consciousness" (Chafe 1994), which requires the ability to control and shape the flow of content and information in discourse through linguistic means, while viewing the written text as an autonomous entity. Writing is considered the ultimate achievement of linguistic literacy, defined in Ravid and Tolchinsky (2002) as *gaining ready and informed access to an encyclopedic range of language uses ranging across different discourse genres in speech and writing, framed in registers of use and geared towards appropriate communicative functions.*

Writing is prototypically a preplanned, non-interactive activity, impersonal and non-direct, a process that results in editable text (Flower and Hayes 1981; Murray 2004). The generation of stable textual products disengaged from their immediate context of production constitutes the basis for a literate society that documents knowledge and comments upon it (Olson 2006). This detachment of written texts from their temporal and interactive anchors affords the construction, representation, editing and revision of text entirety (Murray 2012). It also brings to consciousness the structures, semantics and functions of linguistic usage that are blurred or absent from awareness in oral expression (Olson 1994). Gaining command of literacy thus provides the platform for later cognitive and language developments during adolescence such as abstract thought, executive control and integrative processing (Berman and Ravid 2008).

In an educational context, writing is the highway to learning, processing, organizing, storing and retrieving information during the school years, as well as for communicating with teachers and peers. The older the students and the higher their grade level, the more important the quality of writing and its quantity become in integrating information from external resources. Therefore, writing activities increasingly occupy the central arena of linguistic abilities in school age children, while at the same time challenging them with a paradoxical demand. On the one hand, writing calls for the creative production of new content in line with the modality, the communicative circumstances, and the required genre; but at the same time constructing a piece of written discourse imposes heavy demands on both bottom-up and top-down processing abilities. Writers need to retrieve the specific words for the desired expression of content, combine them in the appropriate syntactic and rhetorical structures, and integrate them smoothly and meaningfully in view of the overall goal of the text under construction, paying attention to attention to facets of the notational system such as spelling and punctuation (McNamara et al. 2010; Tolchinsky 2007). To achieve this balance in expressing communicative content in a constrained form, students need to access rich cognitive resources, such as monitoring and executive control, meta-memory, planning, setting goals, and manipulating series of units (Berman and Ravid 2008; Ravid 2012).

## 2 Writing Assessment 65

It is no wonder that gaining command of writing abilities is a protracted process 66
requiring both internal resources as well as active mediation, support and guidance 67
by expert teachers. Given the critical role of writing in school-type learning, teach- 68
ers require writing assessment tools that would make it possible to assess students' 69
written products in the context of their age and literacy level and to pinpoint areas 70
where some of them might be in need of remediation (Berman et al. 2011; Scott and 71
Balthazar 2010; Scott and Windsor 2000). In this context, Israeli teachers are in dire 72
need for a common, accessible knowledge base that will enable them assess the 73
quality of students' writing. In the absence of systematic, evidence-based standards, 74
every teacher or school makes up their own local assessment of students' texts based 75
on different considerations and preconceptions, with no real idea regarding what to 76
expect at each age/schooling level and from different genres, resulting in much vari- 77
ability and with little or no reliability in writing assessment (Ravid and Shalom 78
2012). This is where standards come in. 79

Standards are published documents that establish specifications and procedures 80
designed to ensure the efficacy and reliability of materials and services. Specifically, 81
standards create protocols to help ensure product functionality and compatibility, in 82
our case – assessment of written texts. According to the 2010 McKinsey education 83
report, standards have an important role in the formation of a good educational sys- 84
tem (Mourshed et al. 2010). This report highlights three major factors in improving 85
school systems: (1) Getting the right people to become teachers; (2) developing 86
them into effective instructors; and (3) ensuring the system is available to deliver the 87
best possible instruction for every child. Setting standards for the assessment of 88
written texts can make substantial contributions towards goals (2) and (3) by mak- 89
ing available to teachers (and the system within which they function) an evidence- 90
based, ecologically valid pedagogical tool designed to assess the overall quality of 91
the written piece as well as the quality of its various components. Such a protocol 92
should indicate where each student is currently situated in comparison to his/her 93
classmates and in view of desired age-appropriate achievements; pinpoint areas of 94
difficulty that need further guidance and intervention in individual students and in 95
segments of the class; and provide teachers with useful information and practical 96
instruction regarding how to improve students' writing quality. 97

## 3 The Background Project 98

The current chapter reports a research study that accompanied the Israeli Writing 99
Standards Project (Ravid and Shalom 2012).[1] This project aimed at providing Israeli 100
teachers with an evidence-based body of knowledge in the assessment of 7th grade 101

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[1] Project Funded by Yad Hanadiv Foundation in Israel.

students' Hebrew text writing, with detailed information on how to assess quality of text components as well as the text as a whole. This age/schooling group of 7th graders (12–13 years) was selected as lying between childhood and early adolescence. On the one hand, 7th graders – in Israel, attending the beginning of middle (junior high) school – have already gained experience in learning via the written mode at a time of life when literacy has gained a central and active role in their linguistic and educational development. Thus, they are able to handle text production in different genres. On the other hand, their linguistic and cognitive development and their school education is far from complete. At the advent of the period of *later linguistic development*, 7th graders still anticipate the cognitive, social, and linguistic abilities necessary to produce mature written texts. As young adolescents, they will soon be increasing their understanding of how people and things operate, gaining command of (meta)memory and executive function skills and of the vocabulary and grammar necessary to express complex content. In 7th grade, these mature skills as still nascent, so that there is much room for effective intervention and improvement. The aim of the Israeli Standards Project was to design and produce a protocol for the assessment of writing in 7th grade students on different topics and genres that would be ecologically valid for Israeli Hebrew, i.e., oriented towards the typological features of Hebrew. In addition to being age-appropriate, this protocol would also take into account students' socio-economic background. The desired protocol would be based on a new, carefully elicited and collected corpus of texts of age-level produced in writing by 7th graders from different SES backgrounds. To this end, materials were collected between May-June 2011 from 90 7th grade students in two different schools, one from a middle-high and one from a low SES neighborhood, as defined by the Strauss Resource Allocation scale (2007). Following the Berman and Verhoeven 2002 protocol, each student wrote three different texts – narrative, expository and informative and reconstructed a text – so that altogether our database included 270 texts.

The genres and themes of the texts elicited were selected with regards to the developmental stage of the students and the two SES backgrounds. The topic selected for the elicitation of the informative text was *the car,* a gender- and SES-neutral, rather concrete theme that would be familiar to all students while sharing properties with informative, school-type topics. The study that we report on in the current chapter focused on the two other text types – a personal-experience narrative and an expository text sharing the same theme of *success or failure*. This theme was selected with the idea that it is related to school life in teenage, it does not require complicated world knowledge, and it represents a socially as well as personally significant issue, so that it can incur both an interesting personal-experience story as well as an appropriate expository discussion in all types of students.

Text production was preceded by piloting in individual students and small groups. Final text elicitation took place in the class forum under the supervision of investigators from the standards project team in collaboration with the school staff. As the low-SES school population was more heterogeneous, text collection first took place in the middle-high SES school in May 2011, followed by collect text collection in the low-SES school. In both schools, texts were collected in two consecutive days in

two parallel classes (45 min) according to a strict protocol – in one class the    147
informative text and the reconstruction were elicited first, and in the other, the suc-    148
cess/failure texts were elicited first. The personal-experience text always preceded    149
the expository, with the idea that thinking about events related to success or failure    150
would make it easier to discuss these notions later on in a more detached manner.    151
The investigators had a kit with a short text introducing the project, which they read    152
aloud in the class forum before starting text elicitation. This text was as follows:    153

> "Shalom, we are conducting a study about writing by 7th grade students in Israel. Therefore    154
> we will ask you today and tomorrow to carry out writing assignments. The texts you will    155
> write will be used by us to learn about students' writing, therefore we ask you to write the    156
> best, the most detailed and richest texts you can. In this way, you will aid us in our task".    157

Investigators were instructed not to help children in any other way, except for    158
encouraging them to write.    159

For the elicitation of the personal-experience narrative, each participant received    160
a sheet of lined paper with the title "My story". Above the title, the written instruc-    161
tions were as follows:    162

> "Both adults and children sometimes succeed or fail, and failure might become a success.    163
> Write a story about an experience or a case where you succeeded or failed, or about an event    164
> where someone you know succeeded or failed".    165

For the elicitation of the expository text, each participant received a sheet of lined    166
paper with the title "My exposition" (a familiar term in school regarding a non-    167
narrative text). Above the title, the written instructions were as follows:    168

> "Success and failure are topics which interest youth and adults, and every person has differ-    169
> ent opinions and understandings regarding these topics. Think about the topic of success    170
> and failure, about their reasons and outcomes, and write an exposition that will present your    171
> thoughts on the topic. Do not write a story, but rather discuss the topic".    172

Following text collection, all texts were transcribed into Hebrew in a "mirror" for-    173
mat, that is, exactly as written by the student, including document form, all errors    174
and markings. This corpus of 270 texts formed the basis for developing the genre-    175
specific, six-level protocol of assessment, which included three dimensions – *top*    176
*down*, viewing the text as a global whole; *interim*, analyzing discourse syntax; and    177
*bottom up*, relating to lexicon and morpho-syntax. The six-level assessment proto-    178
col included detailed criteria illustrated by examples from the database (Ravid and    179
Shalom 2012).    180

## 4  The Study    181

The study reported here accompanied the Standards Project as a separate research    182
endeavor. Since we needed to narrow down the scope of the study, two genres were    183
selected for analysis – a narrative and an exposition. Initially, the study included 40    184
students from mid-high SES and 35 students from low SES who had each written    185
two texts. However, three mid-high-SES and six low-SES students were removed    186
from the study as they had not produced genre-appropriate texts, while one low-SES    187

188 student had not written a text with a minimum of two clauses. The final study cohort
189 thus encompassed 37 students from the middle-high SES school, and 28 students
190 from the low-SES school. Each of the participants produced two texts on *success or*
191 *failure* – a personal-experience story and an expository text, making the total
192 number of texts analyzed in the current study 130. The study was carried out by
193 the chapter authors, a sub-team of the project investigators, who developed all of the
194 measures described below. Regarding measures based on scoring scales, each of
195 the investigators made her/his assessment separately, with differences discussed in
196 the study forum until agreement was reached.

## 5    Measures of Analysis

198 Out of the three textual dimensions analyzed in the full project, the accompanying
199 study focused on the top-down perspective of the text, relating to four textual prop-
200 erties: text size, text content, text structure, and text cohesion. These properties were
201 assessed via 12 specific measures, as follows. Text size was measured by (1) number
202 of words and (2) number of clauses, as well as by (3) Mean Clause Length (MCL),
203 the number of words divided by the number of clauses, a derived measure of lexical
204 and syntactic density in the clause which takes into account text length (Berman and
205 Ravid 2008; Ravid 2005). Text content was assessed based on two measures: (4)
206 content quality, on a 6-point scale, and (5) content quantity, measured by the number
207 of propositions in the text, as well as by two derived measures of conceptual den-
208 sity – (6) words per proposition, and (7) clauses per proposition. Text structure was
209 assessed based on three measures: (8) opening segment quality and appropriateness
210 (3-point scale), (9) ending segment quality and appropriateness (3-point scale); and
211 (9) text proportions, taking into account a balance of opening, text body and ending
212 (3-point scale). Finally, text cohesion was measured by (10) demarcation, assessing
213 on a 3-point scale to what extent each text segment was clearly separated from its
214 environment as well as being syntactically and content-wise cohesive. The full
215 report on measures and procedures including illustrating examples can be found in
216 Ravid and Shalom (2013). On all of these measures, we expected students from
217 mid-high SES to do better than peers from low SES (Berman et al. 2011; Levie
218 2012; Ravid 1995; Ravid and Schiff 2006; Schiff and Ravid 2012). We also expected
219 expository texts to be more challenging than narrative texts (Berman and Nir-Sagiv
220 2009a; Ravid 2005; Ravid and Berman 2009; Ravid et al. 2009).

## 6    Analyses and Results

222 Analysis was carried out in two stages. First, we conducted a series of two-way
223 ANOVAs on the 12 study measures, taking into account text genre and SES back-
224 grounds of the participants. Then we proceeded to analyze the relationship between
225 specific textual measures given these two variables.

t1.1 **Table 1** Text size measures in narrative and expository texts written by high- and low-SES 7th
t1.2 grade participants, with standard deviations in *parenthesis*

|  | Middle-High SES N=74 texts | | Low SES N=56 texts | |
|---|---|---|---|---|
| t1.3 Measure | Narrative N=37 | Expository N=37 | Narrative N=28 | Expository N=28 |
| t1.4 Number of words | 114.46 (82.31) | 52.14 (24.41) | 96.5 (66.85) | 53.18 (30.19) |
| t1.5 Number of clauses | 31.89 (22.3) | 13.27 (5.77) | 26.04 (16.95) | 14.07 (8.4) |
| t1.6 Mean Clause Length | 3.64 (0.58) | 3.95 (0.79) | 3.66 (0.55) | 3.84 (0.71) |

t2.1 **Table 2** Text content measures in narrative and expository texts written by high- and low-SES 7th
t2.2 grade participants, with standard deviations in *parenthesis*

|  | Middle-High SES N=74 texts | | Low SES N=56 texts | |
|---|---|---|---|---|
|  | Narrative N=37 | Expository N=37 | Narrative N=28 | Expository N=28 |
| t2.3 Measure |  |  |  |  |
| t2.4 Content quality 1–6 | 4.38 (1.23) | 4.43 (.93) | 3.75 (1.27) | 3.71 (.85) |
| t2.5 Content quantity | 13.11 (8.23) | 4.97 (1.74) | 12.64 (7.43) | 3.82 (2.04) |
| t2.6 Number of propositions |  |  |  |  |
| t2.7 Conceptual density | 8.26 (1.43) | 10.41 (2.77) | 7.37 (1.8) | 14.6 (5.95) |
| t2.8 Words per proposition |  |  |  |  |
| t2.9 Conceptual density | 2.3 (0.44) | 2.71 (0.82) | 2.01 (0.33) | 3.93 (1.84) |
| t2.10 Clauses per proposition |  |  |  |  |

## 6.1 Step I: ANOVAs

226

Table 1 shows results on the three measures relating to text size: number of words, 227
number of clauses, and mean clause length. The 2-way ANOVAs (SES background 228
by genre) on text size measures revealed larger narrative than expository texts in 229
terms of words (narratives M=105.5, expositories 52.66; F(1,63)=38.0, p< 001) 230
and clauses (narratives M=28.96, expositories 13.67; F(1,63)=40.68, p<.001), 231
however clauses were longer in expositories (M=3.9) than in narratives (M=3.65) 232
F(1,63)=4.54, p<.04). None of the measures showed an effect for SES. 233

Table 2 shows results on text content measures: Content quality was assessed on 234
a scale of 1–6, content quantity in terms of number of propositions, and two mea- 235
sures of conceptual density derived from the division of words and clauses over 236
propositions. The 2-way ANOVA (SES background by genre) on content quality 237
had an effect of SES F(1,63)=9.07, p<.005, showing that texts written by mid- 238
high SES students had a higher content quality (M=4.41) than texts written by low 239
SES students (M=3.73). Regarding content quantity, the 2-way ANOVA showed an 240
effect of genre F(1,63)=82.37, p<.001, with narratives having 3 times as many 241
propositions (M=12.88) than expositories (4.4). Interestingly, the derived measures 242
both showed not only effects of genre (words per propositions F(1,63)=68.52, 243
p<.001), clauses per proposition F(1,63)=45.5, p<.001), but also of SES (words 244
per propositions F(1,63)=7.32, p<.01), clauses per proposition F(1,63)=6.5, 245
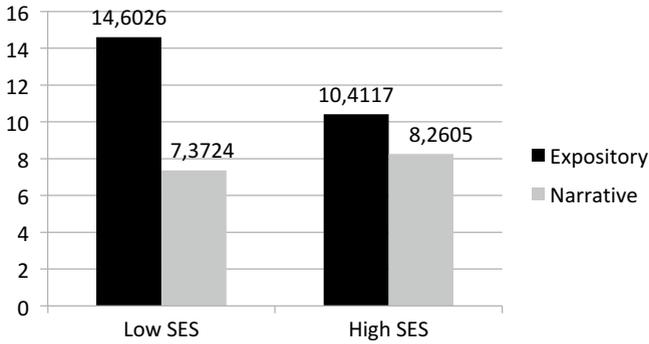p<.02). In both cases, narrative propositions used up fewer words (M=7.82) and 246

**Fig. 1** Conceptual density: interaction of genre and SES in number of words per proposition
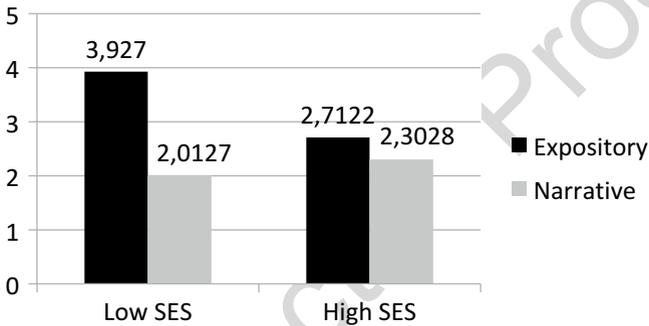


**Fig. 2** Conceptual density: interaction of genre and SES in number of clauses per proposition

247   clauses (M=2.16) than did expositories (words M=12.51, clauses M=3.32). That
248   is, narratives were denser conceptually than expositories. Moreover, low SES prop-
249   ositions employed more clauses (M=10.99) and words (M=2.97) than did mid-
250   high SES propositions (words M=9.34, clauses M=2.16), i.e., low SES texts were
251   less conceptually dense than high SES peer texts. Two interactions of genre and
252   SES regarding conceptual density, one for words per propositions F(1,63)=20.08,
253   p<.001), and one for clauses per proposition F(1,63)=19.09, p<.001), are shown
254   in Fig. 1 and 2 respectively. The two interactions derived from lesser conceptual
255   density in the low SES expositories as compared with low SES narratives, on the
256   one hand, and with high SES expositories, on the other hand. In terms of clauses per
257   proposition, high SES expositories did not differ from narratives; in terms of words
258   per proposition, the low SES texts showed a greater advantage for narratives than
259   did high SES texts. The locus of lower conceptual density was thus in the low SES
260   expositions.
261       Table 3 shows results on global text structure and cohesion measures: opening
262   and ending, text proportions, and text segment demarcation, each assessed on a
263   scale of 1–3. The 2-way ANOVA (SES background by genre) on openings and

t3.1 **Table 3** Global text structure and cohesion measures in narrative and expository texts written by
t3.2 high- and low-SES 7th grade participants, with standard deviations in *parenthesis*

| | Middle-High SES N = 74 texts | | Low SES N = 56 texts | |
|---|---|---|---|---|
| t3.3 Measure | Narrative N = 37 | Expository N = 37 | Narrative N = 28 | Expository N = 28 |
| t3.4 Opening segment 1–3 | 2.27 (0.9) | 1.62 (1.09) | 2.14 (1.04) | 1.18 (1.12) |
| t3.5 Ending segment 1–3 | 2.22 (1.0) | .97 (1.01) | 1.93 (1.08) | 0.89 (1.13) |
| t3.6 Text proportions 1–3 | 2.41 (1.01) | 1.51 (1.05) | 1.93 (1.38) | 1.21 (1.17) |
| t3.7 Segment demarcation 1–3 | 2.41 (0.64) | 2.24 (0.68) | 2.29 (0.81) | 2.11 (0.73) |

endings each had an effect of genre ($F(1,63) = 25.76$, $p < .001$) and $F(1,63) = 45.05$, 264
$p < .001$) respectively), showing that narrative texts had better openings ($M = 2.21$) 265
and endings ($M = 2.07$) than expository texts (opening $M = 1.4$, ending $M = 0.93$). 266
Regarding text proportions, the 2-way ANOVA showed an effect of genre 267
$F(1,63) = 18.33$, $p < .001$, with narratives having better proportions ($M = 2.16$) than 268
expositories ($M = 1.36$). There were no other effects or interactions. Demarcation 269
had no effects nor interactions. 270

## 6.2 Step II: Dyadic Analysis 271

Following the ANOVAs, we carried out a series of Pearson correlations, showing 272
that within each genre, as well as across genres, three measures were highly corre- 273
lated with each other (at the .01 level): content quality, text proportions, and demar- 274
cation. Our next step thus required a model of statistical analysis that would be able 275
to determine the relationship between the measures of text structure (proportions 276
and demarcation) and the measure of content quality – as related to the variables of 277
genre and SES. Given the fact that each participant, belonging to a specific SES 278
background, produced two texts of different genres, we adopted the Actor/Partner 279
Interdependent (Dyadic) Model (Card et al. 2008; Kenny et al. 2006) for our analy- 280
sis. The goal of dyadic analysis is to take into account the possible differences or 281
correlations within each participant. In the current context, the response to one 282
dependent variable (e.g., content quality in narrative text) is expected to be coupled 283
with the response to a second dependent variable within the same observation – in 284
this case, the same participant (e.g., content quality in expository text). 285

Given the psycholinguistic nature of the study, an introduction is required regard- 286
ing the meaning of the terms *dyadic, actor* and *partner*. In general, a dyadic analysis 287
perceives the dependent variables as pertaining to two domains – acting upon them- 288
selves (*actor*) and upon each other (*partner*). This enables an overarching yet pre- 289
cise construal of the relationships among variables. Specifically, the fact that each 290
participant writes texts in two different genres allows us to model not only each 291
genre independently, but also the inter-dependency between the two genres. Thus, 292
in the current context, the *actor* is the effect that global text structure measures 293

294  (proportions and demarcation) have upon content quality within the same genre
295  (narrative or expository). The *partner* analysis examines the effect of these measures
296  in one genre on content quality in the other genre.

297  We thus posited five hypotheses. First, that global text structure is related to its
298  content quality in general (*actor effect*); second, that both measures of written text
299  production – global structure (proportions and demarcation) and content quality –
300  are moderated by text genre (*actor x genre*); third, that global text structure mea-
301  sures in one genre affect content quality in the other (*partner effect*); fourth, that this
302  relationship is not similar in both directions, i.e., that expository structure affects
303  narrative content quality, but not vice versa (*partner x genre*); and fifth, that the
304  correlation between these outcomes is due to the properties specific to each text
305  genre as well as to the overall writing capabilities of each participant as related to
306  SES background.

307  Since our data had a hierarchically nested structure (the two genres constitute
308  repeated measures nested within the same participant), we selected multilevel
309  modeling as our tool of analysis to test these hypotheses (Kenny and Ledermann
310  2010). Level 1 included the measures of text structure (*proportion and demarca-
311  tion*) and content quality within each of the genres for both actor and partner effects.
312  Level 2 included SES background.

313  Table 4 provides the estimates of the dyadic model as well as the sources of
314  variation in the model. We ran three consecutive models and compared one to
315  another in terms of additional explained variation. Model I showed that 41 % of the
316  error variation was explained by the dyadic effect of the two genres (Unconditional
317  ICC). Model II showed that proportion and demarcation were positively correlated
318  with content quality (confirming hypothesis 1), though the marginal effect of demar-
319  cation was higher (.81) than that of proportions (.33). In general, content quality in
320  expository texts was slightly higher than in narratives ($b_{Genre} = -.33$). The effect of
321  proportions of one genre on the other (Partner effect) was significantly positive
322  (hypothesis 3 partially confirmed, for proportions). Finally, SES had an effect on
323  content quality – that is, participants from a higher socio-economic background
324  performed better than peers from a lower socio-economic background (confirming
325  hypothesis 5). Overall, 62 % of the unexplained variation out of the total variance
326  was explained by Model II.

327  Model III expanded these relationships to include level 1 interactions between
328  genre, on the one hand, and proportions and demarcation, on the other hand; as well
329  as level 2 interactions between SES background, on the one hand, and genre, pro-
330  portions and demarcation, on the other. Table 4 reveals three interactions. Figure 3
331  shows an interaction between genre and partner proportions: Better proportions in
332  expository texts positively affect content quality of narrative texts, but proportions
333  of narrative texts do not do so for expository content quality. Figure 4 shows that an
334  increase in the proportions measure positively affects content quality more for
335  higher SES participants than for lower SES participants. Figure 5 shows that the
336  positive effect of expository demarcation on narrative content quality and of narra-
337  tive demarcation on expository content quality is found <u>only</u> in higher SES partici-
338  pants. The total variance explained by model III is now 69 % out of the total variance.

t4.1 **Table 4** Hierarchical linear modeling coefficients for genre, SES, actor and partner effects
t4.2 proportions, demarcation and interactions on content quality of the text

| | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Fixed effects | | | |
| Intercept | 4.12 (0.12)*** | 4.05 (0.11)*** | 4.29 (0.07)*** |
| Level 1 | | | |
| Genre[a] | | −0.33 (0.13)* | −0.34 (0.11)** |
| Actor Effects | | | |
| Proportions | | 0.33 (0.05)*** | 0.29 (0.06)*** |
| Demarcation | | 0.81 (0.10)*** | 0.95 (0.25)*** |
| Partner Effects | | | |
| Proportions | | 0.14 (0.05)* | 0.03 (0.05) |
| Demarcation | | −0.14 (0.10) | −0.17 (0.11) |
| Level 2 | | | |
| SES[b] | | 0.41 (0.14)** | 0.59 (0.15)*** |
| Level 1 interactions | | | |
| Genre X actor proportions | | | 0.17 (0.10) |
| Genre X actor demarcation | | | −0.11 (0.20) |
| Genre X partner proportions | | | 0.25 (0.12)* |
| Genre X partner demarcation | | | 0.20 (0.20) |
| Level 1 X level 2 interactions | | | |
| SES X genre | | | −0.37 (0.25) |
| SES X actor proportions | | | 0.23 (0.12)* |
| SES X actor demarcation | | | −0.31 (0.18) |
| SES X partner proportions | | | −0.04 (0.10) |
| SES X partner demarcation | | | 0.47 (0.17)** |
| Random Effects | | | |
| level 1 $\sigma_\epsilon^2$ | 0.75 (0.86) | 0.40 (0.64) | 0.28 (0.53) |
| level 2 $\sigma_0^2$ | 0.51 (0.71)*** | 0.07 (0.27)* | 0.11 (0.34)*** |
| Deviance | 386.85 | 270.93 | 242.90 |
| $\Delta X^2$ | – | 115.92*** | 28.03*** |
| Unconditional ICC | .41 | – | – |
| PseudoR$^2$ | – | .62 | .69 |

t4.34 *$p<.05$, **$p<.01$, ***$p<.001$
t4.35 [a]Genre: 0-expository, 1-narrative
t4.36 [b]SES: 0-low, 1: mid-high
t4.37 Standard errors are in *parentheses* for fixed effects and Standard deviations for random parameters.
t4.38 Results are reported with robust standard errors. The intercept represents the expected scores for
t4.39 content quality at the mean of all included explanatory variables for low SES and expository text

Finally, the improvement in the level of variance explained from Model II in com- 339
parison to Model I, and from Model III in comparison to Model II, is significant 340
(delta chi square=115.92, 28.03 respectively) – supporting the use of the more 341
complex models over the base model. 342
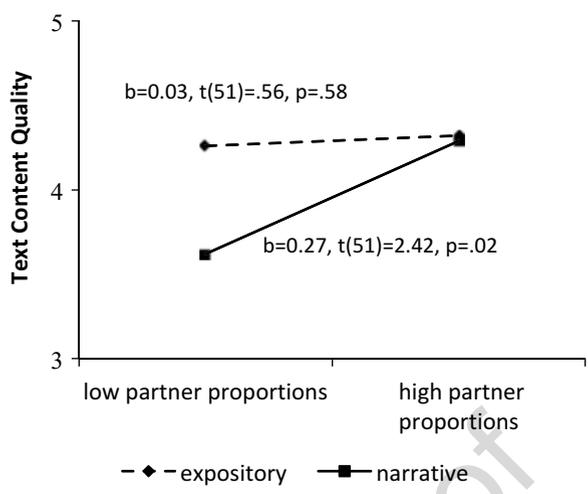
**Fig. 3** Interaction of genre by partner proportions



b=0.03, t(51)=.56, p=.58

b=0.27, t(51)=2.42, p=.02

Text Content Quality

low partner proportions — high partner proportions

— ◆ — expository — ■ — narrative

**Fig. 4** Interaction of SES by actor proportions



b=0.52, t(51)=3.78, p<.001

b=0.29, t(51)=4.66, p<.001

Text Content Quality

low actor proportions — high actor proportions

— ◆ — LSES — ■ — HSES
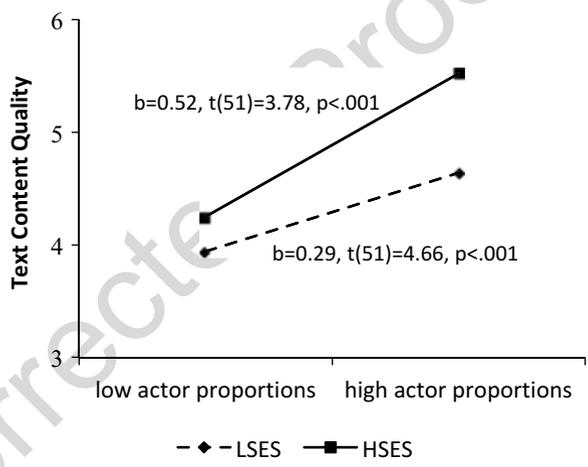
**Fig. 5** Interaction of SES by partner demarcation



b=0.27, t(51)=2.42, p=.02

b=0.03, t(51)=0.56, p=.58

Text Content Quality

low partner demarcation — high partner demarcation

— ◆ — LSES — ■ — HSES
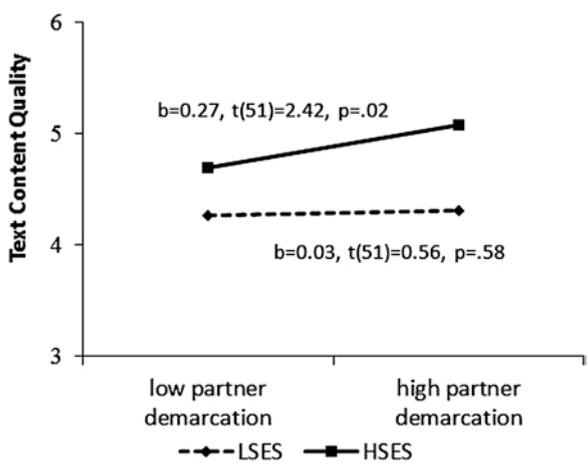
## 7    Discussion

The study reported here accompanied an educational project aiming at the construction of standard assessment procedures regarding Hebrew text writing in 7th grade students from different socio-economic backgrounds. The full project generated a protocol for the assessment of three discourse genres (narrative, expository, informative) from several perspectives – bottom-up lexicon, morphology and morphosyntax, interim syntactic structures organizing larger text segments, and top-down content and global structure (Ravid and Shalom 2012). Out of these, the accompanying research focused on the comparison of narrative and expository texts sharing the same theme (success and failure) from the top-down perspective examining text size, text content and global text structure. This perspective is notorious for being hard to assess, given differential criteria of text quality (Berman and Nir-Sagiv 2009b). In the attempt to gain informative data on this rather elusive notion, we examined each text based on twelve different measures encompassing text size, content quality and quantity, text structure and text cohesion. Measures were designed to be age-appropriate as well as genre- and theme-sensitive. For example, regarding content quality, good 7th grade narratives were expected to include a storyline with a trajectory towards success or failure, while good expositions were expected to contain at least two different abstract ideas. Raters were provided with specific scales for the evaluation of text quality and for counting text units. As reported above in the Methods section, each rater worked alone, with final counts and scores reached after group discussions.

The fact that the current study examined a single age/schooling group enabled us to focus on text production abilities in 12–13 year old 7th graders from a different perspective than if this had been one of the groups compared across development, as in previous studies (Berman and Nir-Sagiv 2007; Ravid 2006; Ravid and Berman 2006). Text writing abilities in 7th graders were examined across two major variables – students' SES background and text genre. The ANOVA analyses revealed the expected picture regarding text genre: while narratives were longer than expositories in terms of words and clauses, mean clause length showed longer, i.e., more informatively and syntactically complex clauses, in expositories. In general, narratives were propositionally richer and conceptually denser than expository texts. They also had better openings, endings and proportions than expositories. In sum, Israeli 7th graders were better able to meet the content and structural demands of a personal-experience narrative text on the theme of success and failure than the demands for an abstract presentation and discussion of this theme. But at the same time they used denser and more syntactically complex language for exposition than for narration – in line with previous studies (Berman and Nir-Sagiv 2009a, b; Ravid and Levie 2010; Ravid and Berman 2010). SES was informative in the ANOVA analyses only regarding text content, which was generally of higher quality in students from high SES background; and specifically of lower conceptual density in low SES expositories in comparison with narratives in the same group, and with high SES expositories. The dyadic analysis also identified text-internal relationships

386 between text content, structure and cohesion: Global text structure (proportions of
387 opening, text body and ending) and cohesion (measured by demarcation) were
388 shown to be related to text content. In terms of genre, the ability to produce a well-
389 proportioned expository was found to predict narrative content. Most importantly,
390 better proportions were found to predict text quality more in high SES in than low
391 SES texts, while better demarcation in one genre predicted better content in the
392 other genre, but only in the high-SES texts.

393 Taken together, our findings indicate that Israeli 7th graders of both SES back-
394 grounds are already able to produce appropriate personal-experience narratives in
395 terms of text quality and structure. While expositions have not yet caught up with
396 narrative abilities in terms of content quality and conceptual density in this age
397 group, they host richer, denser linguistic expression and their structure predicts
398 good narrative content. However, 7th graders from low SES background are
399 especially at risk in the process of gaining command of expository text production,
400 lagging behind their high SES peers. This finding calls for special focus on exposi-
401 tory reading and writing in educational programs targeting students from deprived
402 backgrounds.

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