The discourse of collaborative creative writing: peer collaboration as a context for mutual inspiration

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Drawing on socio-cultural theory, this paper focuses on children's classroom-based collaborative creative writing. The central aim of the reported research was to contribute to our understanding of young children's creativity, and describe ways in which peer collaboration can resource, stimulate and enhance classroom-based creative writing activities. The study drew on longitudinal observations of ongoing activities in Year 3 and Year 4 classrooms (children aged 7-9) in England. Selected pairs' collaborative creative writing activities were observed and recorded using video and audio equipment in the literacy classroom and in the ICT suite (13 pairs, about 2-4 occasions each).

The research built on the contextualised, qualitative analysis of the social and cognitive processes connected to shared creative text composition. Using an analytic tool developed specifically for creative writing tasks, we linked collaborative and discursive features to cognitive processes associated with writing ('engagement' and 'reflection'). The research has identified discourse patterns and collaborative strategies which facilitate 'sharedness' and thus support joint creative writing activities.

The paper discusses two significant aspects of the observed paired creative writing discourse. It reports the significance of emotions throughout the shared creative writing episodes, including joint reviewing. Also, it shows children's reliance on collaborative floor (Coates, 1996), with discourse building on interruptions and overlaps. We argue that such use of collaborative floor was indicative of joint focus and intense sharing, thus facilitating mutual inspiration in the content generation phases of the children's writing activities. These findings have implications for both educational research and practice, contributing to our understanding of how peer interaction can be used to resource school-based creative activities.

Introduction

Collaborative creative writing

The centrality of creativity in human life has manifested itself throughout history in all cultures and civilisations. However, recent decades have seen an increased awareness of the societal need for cultivating creative and imaginative thought, leading to what Craft (2005) refers to as a 'revolution of creativity in education'. This increased awareness reflects societal changes in Western cultures; a shift from the 'industrial' to the 'knowledge' economy that, as many would argue, is "powered by human creativity" (Florida, 2002, p. 6). One of the major themes in current educational research concerns classroom-based creativity, with a growing number of attempts to conceptualise, implement and evaluate strategies to foster creativity in school contexts (see, for example, Craft, 2005, 2008).

From a socio-cultural perspective, such research needs to consider ways in which social interaction with adults or peers facilitates children's creativity. For example, Craft (2005) identifies creative partnerships and apprenticeships – where students and teachers, novices and experts, artists and schools work together, and where diversity is embraced – as ideal platforms for fostering creativity. Although recognising the pivotal position of more knowledgeable others in creative development, the focus of the study presented here was on more symmetrical relationships: children's creative interactions with each other.

Research on children's collaboration has traditionally been concerned with problem solving tasks in science, particularly physics and maths. Yet, there are a growing number of studies in the collaborative learning literature which shift the focus of enquiry to more open-ended

activities. An emerging theme centres around the role of peer collaboration in literacy development in the preschool and early primary school years (Pellegrini, Galda & Flor 1997; Pellegrini, Galda, Bartini & Charak, 1998; Pellegrini et al, 2002; Ligorio, Talamo & Pontecorvo, 2005; Rojas-Drummond, Mazon, Fernandez & Wegerif, 2006). Earlier studies comparing individual and collaborative writing have revealed that compositions written by pairs were more advanced than individually written ones, and the benefits of collaboration carried over into subsequent individual creative writing (Hartup, 1996). Nevertheless, the idea that creative collaboration invariably leads to productive work is one that has been challenged by more current research (e.g. Vass, 2003), indicating that the benefits of paired creative writing are inextricably linked to the quality of collaboration as well as other contextual factors. Similarly, other work on children's joint writing has examined the role of close relationships (Jones, 1998, Pellegrini et al, 2002) or the writing medium (Jones & Pellegrini, 1996, Ligorio, Talamo & Pontecorvo, 2005) in the observed activities. On the whole, there seem to be significant qualitative differences between collaborative and solitary text composition. But how can we characterise productive discourse in joint creative writing activities? The current study aimed to address this question. Although acknowledging that any sort of writing task may provide opportunities for creative thinking, the research reported here was specifically concerned with children's creative text composition (e.g. story writing or poetry).

The analysis of collaborative discourse

In order to explain how school-based peer interaction supports children's intellectual development – and thus examine the 'relationship between language and thinking' (Mercer & Littleton, 2007) – Neil Mercer and colleagues have carried out extensive research on classroom discourse (Mercer, 1995, 2000). Their studies have provided ample evidence that

the quality of children's talk has a strong impact on the quality of learning (see Mercer & Littleton 2007, for the most current overview). On the basis of their observations, they developed a *typology of productive talk* arguing that *exploratory talk* – the constructive and critical negotiation of views – leads to the highest cognitive gains in paired learning contexts (Mercer, 1995). Mercer and colleagues found exploratory talk exceptionally useful in shared critical thinking, collective reasoning and perspective taking, concluding that this type of talk signifies a '*distinctive social mode of thinking*' that is invaluable in schooled discourse communities (Mercer & Littleton, 2007, p. 66).

An alternative and highly influential model describing productive forms of talk is presented by the line of research on *transactive discussion* (Azmitia & Montgomery, 1993). The framework was originally used to define productive talk in problem-solving contexts, conceptualising transactive discourse as *reasoned argument*. Later it has been modified (Kruger, 1992) and applied to collaborative music composition (Miell & MacDonald, 2000). In the modified description, transacts are utterances children use to refine, extend or elaborate on *ideas* that they or their partners previously introduced.

Thus, the struggle to establish intersubjectivity, the need to share ideas and reflect on others' point of view is not restricted to specific tasks. It is a fundamental aspect of any collaborative activity in the socio-cultural sense. For example, studying Greek and Italian children's collaborative creative writing at a distance, Ligorio and colleagues found that the students made conscious, continuous efforts to build intersubjectivity, "opening windows" in each other's inner world (Ligorio et al, 2005, p. 371).

Yet, discourse may be used differently to achieve such intersubjectivity in open-ended, creative tasks and single-solution problem-solving activities. For example, critical thinking (seen as required in problem solving) is traditionally described as building on logic (Glassner & Schwarz, 2006), whereas creative thinking is often characterised as 'subjective' (Glassner & Schwarz, 2006) or 'improvisational' (Sawyer, 2006). Therefore, our definition of productive talk may be task-dependent, reflecting task-specific variations in cognitive demands. For example, Rojas-Drummond et al (2006) found task-related differences in children's discourse in joint reasoning and writing tasks, with explicit argumentation being less frequent in joint writing sessions than in paired reasoning. The following section will elaborate on the possible reasons for this distinction.

Creative text composition

Classic cognitive models (e.g. Bereiter & Scardamalia, 1987; Flower & Hayes, 1980) define the process of writing as complex problem solving, "in which narrative content must be generated, narrative structure developed, and linguistic mechanisms utilised" (Hartup, 1996, p. 225). For example, Flower and Hayes (1980) claim that the complex task of writing requires a high degree of planning unseen in spoken forms of conversation. The three components of their model are *planning* (the generation and organisation of information needed for the task and goal-setting), *translation* (the turning of the plans and thoughts into text appropriate for the goals of the task), and *reviewing* (the editing and evaluation of the text or the goals).

In contrast, Sharples argues that the fundamental difference between writing and problem-solving is that the former is an open-ended design process, without a fixed goal and without clearly specified and ordered stages leading to one single solution (1999, 1996). He asserts that writing is comparable to creative design and, as such, can be defined as a fusion of

synthetic (or productive) and analytic phases. It incorporates two interlinking and interdependent processes, *engagement* – the generation of creative ideas; the emotional engagement with the material – and *reflection* – the conscious break of the chain of association; reviewing, contemplation and planning (Sharples, 1999). This model builds on Bereiter and Scardamalia's (1987) coinage *of knowledge telling* – the creation of ideas through association, which can take the form of stream of consciousness, daydreaming or free association – and *knowledge transforming* – the exploration and transformation of conceptual spaces and reflection upon the writing process in order to monitor the text production and satisfy the constraints.

However, scholars of creativity place the emphasis on different processes. Boden (1990) attributes creativity to deliberate explorations and transformations in the mind. In contrast, Gelernter (1994) argues that knowledge telling – or, in his formulation, *low focus thinking* – is the foundation of creativity, by which unique analogies are formulated as emotion surfaces and binds thoughts in the dream-like associative process. Sharples (1996) joins these two arguments, and posits that the two types of thinking are both crucial to the writing process. They are combined by the mind's conscious effort to recreate an emotional experience, which prompts the composition of the written text.

Sharples' model of writing as creative design indicates the salience of emotional engagement in creative fields. Current conceptualisations of creativity call for the combined consideration of the cognitive, affective, social and spiritual aspects of the human experience (Craft & Wegerif, 2006). Similarly, in educational and developmental psychology, more recent conceptualisations of cognitive functioning (e.g. Bruner, 1986; and Donaldson, 1996) challenge the primacy of logical thinking. For instance, Donaldson (1996) identifies two

equally important modes of thinking: the *value sensing* mode is primarily affect-driven, whereas *intellect driven thinking* is based on logic and rational thinking. Donaldson argues that the two modes are two extreme points on a continuum. She claims that cognitive functioning in most contexts builds on a combination of the two modes, although one or the other may dominate in particular tasks.

Thus, creative writing (or creative design) and scientific or mathematical problem solving and reasoning tasks may be positioned at two different points on the emotion-intellect continuum (as posited by Vass, 2003), which would explain the reduced need for externalised argumentation in joint creative writing sessions. Also, using Sharples' cyclical model of writing, content generation could be seen as placed at the value-sensing end of the continuum, whereas reflective phases (planning, reviewing, transcribing) may be associated with detached, logical reasoning. Following from this, it is clear that our analysis needs to be both task-sensitive and phase-specific. In particular, we need to examine how paired discourse is used to support different processes linked to creative writing and what sharedness means at different phases of the collaborative creative writing process. This paper elaborates on these issues by looking at the role of emotions at different stages of the joint creative writing process.

Patterns of turn-taking

An interesting discursive phenomenon which the current research examined was children's use of parallel and overlapping talk. Jointly constructed utterances, simultaneous and overlapping speech – or *collaborative floor* – are characteristic of personal discourses such as female friendship and bonding (Coates, 1996). Coates argues that the use of collaborative floor creates a shared space where the "group takes priority over the individuals" (1996, p.

133). Collaborative floor is generally regarded typical in informal settings, or when the purpose is to maintain good social relations. It is also more characteristic of female-talk than the discourse of men. Note however that Sawyer & Berson (2004), studying the informal exam-preparation sessions of a mixed-gender team of undergradutate students, also found frequent overlaps in the joint discourse. The researchers interpreted such overlapping speech as a strategy used to maintain shared focus and work toward a mutual goal. Similarly, Tannock (1998) found that simultaneous and overlapping talk, playful banter and exuberant expression of emotions – which he describes as 'noisy talk' – "got things done" for a group of young people engaged in a joint writing project (p. 241). We argue that the use of a single voice, where "speakers combine with each other, blend their voices to produce a single utterance" (Coates, 1996, p. 119) can be seen equally valuable in creative collaboration, where participants are engaged in the generation of creative ideas through shared association. Since such noisier and messier discourse in the classroom is often seen as off-task banter or 'mucking about', it is worth exploring its use and usefulness in classroom-based collaborative creativity.

2   Method

The research involved naturalistic observations of ongoing classroom activities over a period of one year, working with children aged 7-9 in middle schools in England. The National Literacy Strategy (NLS) in the UK provides a detailed description of objectives for year group and term, accompanied by an outline of the strategies to be used. One such teaching strategy is the literacy hour; the literacy sessions start with group work led by the teacher, followed by independent work of about 20-30 minutes, and finish with a short round-up activity or plenary. Although often seen as over-prescriptive (Smyth, 2008), recent years have seen welcome modifications in the UK national policies, with creativity criteria being widely

incorporated in the national curriculum programmes (Jeffrey, 2008). The study reported here focused on children's collaborative creative writing as set in the classroom but carried out as the *independent* phase of the literacy session (DfEE, 1998), and children's computer-supported text composition in the ICT suite[1].

We followed ongoing writing projects as planned by the teachers, based on what the NLS defines as Fiction and Poetry to be taught to this age-group (e.g. for Year 4: stories, poetry, radio advertisements, TV jingles and songs) (DfEE, 1988). Selected pairs' shared work was observed and recorded using video and audio equipment in the literacy classroom and in the ICT suite (2-4 occasions per pair). Altogether, 24 children participated in the study. The collaborative partners were of the same gender and of matching ability, as documented in the students' end-of-term literacy tests. The pairs were selected to reflect the ability-range in the observed classes. The recorded dialogues were transcribed in as much detail as possible, representing verbal and non-verbal interaction between the partners, noting interaction with others in the classroom, and recording general observational commentary as well.

Functional analysis

The study was informed by discourse analysis in social psychology (as described by Harre, 1997 and Billig, 1997) and educational research building on the analysis of talk and collaborative activity in the classroom (Barnes & Todd, 1995). Our aim was to develop an analytic tool which could be used to examine the writing-related functions of the observed collaborative discourse. First, we examined the transcripts and identified episodes in the dialogue supporting cognitive processes linked to different phases in the writing process. The

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[1] A room set up specifically for computer-supported activities in different subjects (typically enabling individual or paired access to computers for all the children in the class).

following table shows the initial categories, building on Sharples' model of writing as creative design (1999, 1996).

Table 1 Cognitive processes linked to phases of text composition

Text-oriented thinking	Content generation Reflection • planning • reviewing (re-reading, contemplation, evaluation) Transcription

The analytic tool was not intended to study individual turns. Rather, the unit of analysis was extended to longer sequences, in which utterances were marked as centring around one or the other phase. Thus, in each transcript, a string of episodes was identified, each of which was linked to a particular phase within the shared writing process. Next, building on the in-depth analysis of episodes centring around the different phases (content generation, planning, reviewing and transcription), *key episodes* were selected for each phase. These were both *typical* and *powerful* as examples: typical in the sense that they described the ongoing writing situation and discourse patterns, and were not isolated instances of discursive phenomena, and powerful in the sense that they demonstrated particular discourse patterns clearly, and presented a straightforward example.

Note however that, in the observed activities, ideas were often immediately reflected upon, triggering the emergence of new thoughts and resulting in very short iterative cycles. The generation and translation of ideas was often segmented by evaluation, which in turn could either lead to modification, or a completely new cycle of content generation or alternatively, planning. This swift movement between content generation and reflection – thinking *with* and thinking *about* writing (Sharples, 1996) – meant that the writing process could not always be segmented into clear-cut phases with a string of extended episodes (see Section 4 for details).

Based on our analysis, we developed a description of discourse patterns characteristic of each phase. In what follows, we will outline the two phases which the current paper mainly focuses on: creative content generation and reviewing. (For a more detailed discussion of the analytic framework see Vass 2007a, 2004, 2003).

Creative content generation

This phase serves the development of creative ideas through association, followed by the translation of these ideas into text. It often involves the retrieval of emotional experiences from the memory, which are used to stimulate the process of creative text composition. In *joint* content generation episodes discourse was used to pool ideas for the text, to engage in joint brainstorming and to extend joint ideas. [Child A: "S-A, S-A-I. I, What do we do for I? Ice-creams melting ((pause))" Child A&B: "In the sand."]. Discourse expressing emotions – musing, acting out and humour – was also given the content generation function when it served the joint development of creative ideas.

Reviewing the generated content

This phase involves re-reading and contemplation; the evaluation of the generated content, which may lead to modification or redrafting if necessary. It requires the halting, and often prompts the restarting of content generation. Discourse reflecting *joint reviewing* was given this function [Child A: "Remember, you are not supposed to end with -ork, you are supposed to end with another sound." Child B: "I said the pork was so FAT, F-A-T!"].

The typology developed for the analysis of writing discourse was used to study how children carry out the joint planning of text, how they generate ideas together, and how they engage in

the joint reviewing of their work. In order to minimise misunderstandings – such as the over-interpretation or misrepresentation of data – we engaged in a continuous discussion with research colleagues regarding the selection and interpretation of episodes. We also built on field notes and informal interviews with participants and teachers during the interpretative process.

In what follows, key creative writing episodes addressing two crucial aspects of the observed sessions will be discussed: the centrality of emotions, and the use and usefulness of the 'collaborative floor'. Most of the episodes presented in the section will centre around content generation and reviewing.

2   Emotional experiences and creativity

The sharing of personal stories and of personal experiences played an important part in the joint development of creative compositions. For example, in their story about *Fluffy the Wonderful Hamster*, Lisa and Julie draw on personal experiences with pets.

Sequence 1 - Lisa and Julie, story-writing session (transcription)

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1      J:      ((writing)) And ((pause)) she ((pause)) wee-, wee-weed in the pool. Wee-weed in
2              the pool. ((giggles)) Done.
3      L:      In the jam-jar.
4      J:      In a
5      J&L:   Jam-
6      J:      Jar.
7      L:      Yeah, that's what you have to do with ( ), got a little jam jar, empty it out right,
8              make it lie, so they can, put a little bit of sawdust in there, and they wee in it. It's
9              the way ( ). It's not, it's actually quite comfortable for them.
10     J:      Jar, jam jar?
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While transcribing a line within the story (*One day she had diarrhoea and she wee-weed in a jam jar*), Lisa starts recounting her experiences as a pet-owner, discussing the routine of

looking after a hamster. Her practical knowledge (e.g. her thorough understanding of how to look after a pet hamster, in lines 7-8), as well as her emotional involvement (her caring reflection on what is comfortable for a hamster, in line 9), is clear from this episode. As the episode highlights, the main character is based on Lisa's pet, whose life (and untimely death) inspires the key events of the story. The *transcription phase* affords a new opportunity to reflect on past experiences that are incorporated in the storyline. Previous and subsequent episodes of planning, content generation and reviewing within the session show how these recollections chanelled the development of the storyline in other phases and worked as the *primary generator* (Sharples, 1999) or driving force of the creative content. This reveals the emotional dimension of the observed narrative practices, resourcing the shared writing activity.

3   Emotions and content generation

The recollection and recapturing of emotional experiences appeared to be central in the shared generation of creative ideas, triggering and channelling the creative flow. Our study identified *musing*, *acting out*, *humour* and *singing* as characteristic discursive features in the content generation phases which had such emotive content. The detailed overview of these features is beyond the scope of this paper (please see Vass, 2007a for a detailed discussion). In what follows, we will briefly introduce one strategy, *acting out*.

The next sequence is taken from a session during which the teacher first asked the pupils to come up with a list of adjectives that could be used to describe the emotions of the main character of their story and think about how the character would be behaving. In this sequence the observed children are engaged in *joint content generation*, trying to recapture the behaviour of their main character, a boy whose dog has just died. At one point, Simon starts

acting as if he was the boy and Mark joins in. Together they recreate the emotional state of

loss, drawing on and sharing their personal experiences.

Sequence 2 – Mark and Simon, story planning session (content generation)

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1    M:   Come on, then! Shall we just write (She is just pushing herself about) and throws the
2         pillows down.
3    S:   No, it's a boy, Mark. It's not a girl.
4    M:   (  )
5    S:   No, he is smashing the pillow against the metal bars-
6    M:   ((interruption and slight overlap)) Do you know, when you-
7    S:   ((interruption and slight overlap)) Feeling really miserable, and sad-
8    M:   ((interruption and slight overlap)) You know, when you are really upset, you go up to
9         your bedroom, right, and you-
10   S:   ((interruption and slight overlap)) Punch something.
11   M:   No,
12   S:   ((acting out, theatrical gestures and tone)) It's not fair!
13   M:   Yeah.
14   S:   ((fist hitting table)) I am feeling really miserable! I hate my life, I wish I never-
15        ((Mark is giggling)) And you get really horrible and upset, and then you go down and
16        say, 'Sorry, it's too late-'
17   M:   And then you go, It's unfair, I hate life-
18   S:   ((interrupting)) And it just slips out and you don't actually mean it.
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First Simon describes the boy-character's initial reaction to the loss of his pet dog, both at a

physical (line 5) and a mental (line 7) level. Interlinking with his ideas, and almost

simultaneously developed, are Mark's thoughts. He starts his turns with "Do you know, when

you are really upset" (lines 6 and 8), inviting his partner to identify with the character. Simon

joins in and they start to act out the feelings of the character (lines 12, 14-16 and 17). They

both use emphatic intonation and body language to highlight the emotional state (e.g. in lines

12 and 14).[2] The sequence resembles theatrical improvisation, following patterns of

improvisational interaction (as described by Sawyer, 2004). The turns often involve a

'metaphorical yes' to the previous turn; an acceptance that is reflected in the immediate

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[2] Note that the acting sequence was not performed for the camera: there was no indication of this in the dialogue or in the non-verbal interaction (e.g. addressing, looking or pointing at the camera). This is not to say though that the children were not aware of the equipment.

incorporation of the ideas presented while enriching the unfolding scene by adding something new to these at the same time.

Acting out makes the feelings of the character accessible for the boys and facilitates the development of a shared understanding. In this particular instance they explore together what it feels to lose something, and what emotional displays it may involve. (In their individual write-up of the story plan they later wrote *He goes up to his bedroom and throws his pillow around* and *He goes up to his bedroom and gets in a strop and says It's not fair, I hate my life.*)

The episode illustrates how, in content generation phases, emotions serve as the generator of creative thought, supporting collective free-association. The sharing of intimate experiences bonds the boys as partners, but it is also indicative of a well-developed relationship which allows the disclosure of feelings[3]. So intersubjectivity is partially pre-established and partially developed through the joint re-creation of emotional experiences. Although the ideas are not connected by the rhetorics of argumentation, cohesion is still achieved. The important point to make here is that creative engagement, a process fundamental in creative design, appears to be supported by the *uncritical* and free accumulation of ideas. In episodes of joint brainstorming explicit argumentation may become superfluous, it would probably hinder the processes of free association.

In the next section, we will focus on the emotional dimensions in joint reviewing.

4 Emotions and reviewing

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[3] In the sociometric questionnaire exploring relationships in the classroom, both boys nominated the other as a friend.

The analysis revealed that the child-participants typically used two equally important criteria when engaged in the reviewing of the creative material they have developed. The two criteria were *appropriateness* – whether the writing fitted the constraints of the task – and *appeal* – whether or not the writing pleased the writers. Our analysis has shown that evaluation of appropriateness (for example, that of meaning or form) benefited from externalised argumentation (see Vass, 2004 for a detailed discussion of the use and usefulness of explicit reasoning and detached perspective taking).

On the other hand, evaluation of appeal – or the affective value of the emerging text – was not typically supported by explicit argumentation, in line with the findings of Rojas-Drummond et al (2006) discussed earlier. Whereas appropriateness was negotiated using explicit argumentation, leading to rejection or modification, appeal was simply *declared* in emotional terms without reasoning offered.

Verbal evaluation of appeal was characteristically marked by short exclamations of "Yeah, that's good". These brief remarks were usually followed by grins and smiles on both sides. However, evaluation of appeal often proved hard to represent clearly in the transcripts, as it was often non-verbal, marked only by an excited tone or playful and exaggerated intonation. To illustrate this, Sequence 3 shows such an evaluative episode, in which intonation and non-verbal communication play a crucial role. The partners are writing a poem (with rhyming couplets) with the title *Animal wildlife*. So far they have written: *Horses racing / Pigs snorting*.

In order to contextualise reviewing discourse, it is presented in the episodes as part of the iterative cycle, together with the exchanges generating the creative content that is being reviewed. Partially, this decision is driven by necessity; the often fast movement between content generation and reviewing. Nevertheless, the analysis presented in this section focuses on the discursive externalisation of reviewing.

<u>*Sequence 3* – Carina and Jenni, poem-writing (iterative cycle of content generation and reviewing)</u>

1	C:	What shall we do? Cows rough, pigs buff. Arggggh.
2	J:	We've already got pigs. Cows rough.
3	C:	No.
4	J:	Oooh. Look. Cows rough, crocodiles tough! ((They look at each other, heads close,
5		then Carina smiles and starts writing, Jenni giggles.))
6	J:	That's good! ((both writing))
7	C:	((suddenly)) What is it? Crocodiles? ((looks over Jenni's shoulder)) Tough.
8	J:	((in parallel)) Tough. ((Both continue writing, then look at each other.))
9	J:	That's good! ((with a grin))
10	C:	((pen in mouth)) Yeah.
11	J:	((grinning)) I like that one.
12	C:	Cows rough-
13	J:	((interrupting, reciting, head moving with the rhythm)) Horses racing, pigs
14		snorting,
15	J&C:	((together, Carina beating the rhythm on the table with her pen)) Cows rough,
16		crocodiles tough. ((they look at each other, Jenni grinning))

This episode contains a swift content generation – reviewing – content generation – reviewing cycle. In line 1, Carina offers an idea for the next line, "Cows rough, pigs buff." Jenni evaluates it in terms of appropriateness, and rejects part of the line (line 2: "We've already got pigs"). Then she switches back to content generation (line 4), and comes up with a modified line, '"Cows rough, crocodiles tough." They look at each other and start writing without any verbalised acceptance: the decision is made through the exchange of glances and marked by Carina's smile. This is followed by an emotional appraisal by Jenni ("That's good", line 6), which is coloured by giggles, smiles and excited intonation. While transcribing the line, Jenni continues the reviewing by repeating her appraisal (line 9). Carina responds with a 'Yeah'

(line 10), and then Jenni reinforces her appreciation, grinning happily (line 11). Finally, as an extension of the reviewing process, they start to recite the poem; Jenni moving her head with the rhythm, and Carina beating it with her pencil on the table. The recital focuses on what the poem sounds and feels like, connecting the writers with their composition at an emotional level. It brings out the musicality of the created composition: Jenni and Carina recognise and play with the rhythm they have created. Testing – or tasting – their composition this way gives the two girls obvious satisfaction. Note that by doing so, the partners also demonstrate their skilful, unprompted application of 'beating out', a strategy often used by teachers to help young, inexperienced writers.

There is good verbal evidence in this episode of reviewing at an emotional level, where explicit argumentation appears to be redundant (lines 6, 9 and 11). Even more interestingly, the children's non-verbal language (glances, smiles, giggles, grunts and grins) carries most of the evaluative message, indicating that the evaluation of appeal does not necessarily build exclusively on verbal communication. Finally, the way children use the recital in the appraisal of their work further demonstrates the fundamental role of emotions in reflective phases. Once again, the episode reveals a high level of collectivity and sharedness (mutual acceptance and a collective, shared sense of achievement), which seems to have developed without much externalised reasoning or explicit negotiation of perspectives.

Sequence 4 presents another example of emotion-based evaluation. In this sequence two boys are writing a rhyming poem about *Food*. Mike has three evaluative comments, two implicit and one more explicit.

1   M: Squishy-squashy- squishy-squashy- ((biting pen)) Shall we do squishy-squashy cake or
2   squishy-squashy sweets or something?
3   J: ((hand in mouth)) Squishy-squashy vanilla ice-cream.
4   M: Vanilla? ((disappointed, almost shocked tone of voice))
5   J: Strawberry ice-cream.
6   M: It's not very squashy, squishy, ain't it? ((biting pen))
7   J: ((overlapping with line 6)) Yeah, when you put it on your tongue!
8   M: Squishy-squashy, squishy-squashy cake, chocolate cake, that's squashy, ain't it?
9   J: Squishy-squashy strawberry jelly.
10 M: Yeah, that's good. ((they both start writing))

In the first three lines of the episode the partners generate ideas for the first line for their shared poem. Line 4 represents a shift from content generation to reviewing. Mike's first, implicit evaluative feedback concerns James's idea of "Squishy squashy vanilla ice-cream". He simply responds with a question: "Vanilla?" with a disappointed tone of voice (line 4). It may be seen as an implicit rejection of vanilla as a desirable ice-cream flavour. If so, the evaluation takes place at an emotional level, testing ideas from the point of view of _appeal._ James's response in line 5 – a swift move back to content generation – supports this interpretation, he immediately changes _vanilla_ to _strawberry_ (line 5).

Mike switches back to reviewing. His second evaluative comment in line 6 is more explicit, relating to the meaningfulness – the logical appropriateness – of the image James created. He challenges the idea of ice-cream being squishy-squashy. James responds with another line of explicit reasoning – ice-cream may be squashy on someone's tongue – but does not convince Mike (line 7). They start a new cycle of content generation, thinking of _chocolate cake_ (line 8) and _strawberry jelly_ (line 9) and finally agreeing on an image that they both like. Mike's third evaluative comment (line 10: "Yeah, that's good") can be interpreted in two ways. It can be seen as an appraisal of the meaningfulness of the image – it is good because strawberry jelly can be squishy – and as the evaluation of appeal – it is good because the line just _feels_ right.

In this sequence, the boys draw on both intellect and affect in their attempts to review the generated ideas. On the one hand, evaluative comments of appeal (e.g. in line 4 and line 10) are supported by emotion. The reliance on non-verbal signs (e.g. the intonation in line 4) indicates a high level of intersubjectivity between the partners, who can read and respond to these clues without the need for clarification. In contrast, reviewing comments of appropriateness (e.g. in line 6 and line 7) build on explicit reasoning. Thus, this episode shows the importance of emotions, as well as the significance of externalised argumentation, in shared reviewing.

In sum, joint processes of content generation were seen to be supported by a rich repertoire of verbal and non-verbal modes of meaning making reflecting the significance of emotions. Furthermore, the analysis demonstrated that reviewing phases are also supported by emotion (e.g. in evaluation of appeal). These findings reflect the centrality of emotions in the process of creative writing, distinguishing it from scientific problem-solving and hypothesis-testing tasks. They also show the usefulness of our task-sensitive analytic tool, which allowed us to make fine distinctions between joint content generation and shared reviewing. The rich discursive and collaborative repertoire documented in the analysis (such as the swift movement between engagement and reflection) highlights the complexity of the task of creative writing.

5   Overlaps and interruptions

Each episode presented so far contained instances of simultaneous talk, overlaps and interruptions. Our aim with the next sequence is to explore the child-participants' use of such

'fuzzy' discourse – *collaborative floor* (Coates, 1996) or *noisy talk* (Tannock, 1998) – in more detail. Let us begin by looking at an episode characterised by parallel and overlapping talk which is problematic. In this sequence the partners are generating content for their acrostic poem in the ICT suite, sharing the use of a computer. However, the pair's parallel and overlapping talk is indicative of domination (by Annabel) and reflects a lack of balance in the collaborative activity.

Sequence 5 – Annabel and Mary, poem-writing (content generation)

1	A:	I wanted to ( ) ship, ship, ship.
2	M:	I think-
3	A:	((interrupting)) Sailing away on a ship- on the sea ( )
4	M:	I, I, I was going to say, s-
5	A:	((interrupting)) Sailing away-
6	M:	No, I was going to say s-
7	A:	((interrupting)) Sailing away to the seven seas.
8	M:	Listen to what I was gonna say. I was gonna say: Salty sea on the sea shore ((pause))
9		what about-
10	A:	She sells, what about sailing well ((pause)) what about she sells she, sea sells, shells on
11		the sea shore.
12	M:	OK, you can put that down.
13	A:	OK.

The discourse styles in this episode reflect competition. To start with, both partners are trying to get their ideas across but they do not seem to listen to each other. Annabel is working on a line on her own, repeating and rephrasing it in each turn (lines 3, 5 and 7). At the same time, Mary is trying to share her ideas (lines 2, 4, 6, 8 and 9), but is interrupted and ignored by Annabel repeatedly. Finally, she gets Annabel's attention in lines 8-9. This is a turning point in the conversation: Annabel incorporates Mary's suggestion in lines 10-11, which Mary agrees to put down (line 12).

On the surface, this initially competitive approach is difficult to distinguish from instances of parallel or overlapping talk which reflect intense sharing, as both involve frequent overlaps, parallel speech and interruptions. What truly separates the two discourse styles is not

necessarily their formal characteristics, but the way they are employed to resource the activity. The formal features of overlapping talk in Episode 5 are indicative of a dispute, revealing the partners' lack of consideration towards rules of turn-taking, but more importantly their lack of other-orientation (interest in the other's ideas). The ideas are developed in parallel (Annabel comes up *with Sailing away on the seven seas* for their next line, whereas Mary proposes *Salty sea on the sea shore*). There is no sign of intersubjectivity, no indication that the girls are working from or towards a shared space, or that the two lines are the result of the blending of ideas or shared association. Note, however, the turning point in line 10, where Annabel finally listens to and responds to Mary's idea and offers a well-known tongue-twister (*She sells sea shells on the seashore*) incorporating Mary's contribution. Annabel's response is indicative of other-orientation, signifying the first step towards collective creativity. Yet, the episode on the whole reflects the lack of collaborative strategies.

In contrast, parallel and overlapping discourse in Episodes 2-4 showed intense sharing and mutual focus. When acting out the feelings of loss in Episode 2, Mark and Simon relived and recreated this emotional experience together, skilfully weaving different images and ideas together. Similarly, the line *Cows rough, crocodiles tough* in Episode 3 was the product of shared association and reviewing. We argue that this demonstrates the discrepancies between the linguistic and psychological levels of analysis (the study of prevalent language forms and the study of the use of these language forms). To elaborate on this argument, let us look at an instance of shared brainstorming which builds on the use of interruptions, overlaps and simultaneous speech.

We join Jenni and Carina again, at a later stage of their poem writing (Animal life). The children engage in overlapping talk, constantly cutting in, never waiting for the other one to finish. Their exchanges seem almost parallel, as if they weren't listening to each other at all. In order to show how each child invades the other's *talking space* we used Coates' (1996, 2007) transcription conventions for this particular episode, which she developed especially for the study of interruptions and overlaps. (Note that the detailed analysis of patterns of turn-taking was not seen necessary when studying other central research themes. Therefore, for the analysis of other aspects, we transcribed and presented the dialogues according to the narrative conventions, as seen in the previous episodes.)

The broken lines structure the text, presenting the dialogue as a *musical score*. The dialogue *between* the broken lines was spoken near-simultaneously. Slashes indicate the end of a tone group or chunk of talk. Square brackets indicate the start of overlap between utterances. An equals sign at the end of one speaker's utterance and at the start of the next utterance indicates the absence of a discernible gap.

Sequence 6 – Carina and Jenni, poem-writing (content generation)

```
1    J: What shall we do? Sharks swimming.
2    C: Done it.
3    J: No. No, no, done that.
4    C: Yeah.

-----------------------------------------------------------------------------------------------------
5    C: Darks, hmm/   [Darks, oh, no. Sharks plaits/         [cows poop/
6    J:              Sh[arks swimming/              No, sh[arks wailing, wail, wail/
-----------------------------------------------------------------------------------------------------
7    C: ((giggles))                 Whales/       Whales/        =No, I've got one/
8    J: ((giggles)) Whales wail/        wail/                 Dolph=
-----------------------------------------------------------------------------------------------------
9    C: [OK, sharks/]   Sharks die, dolphins/        =No. Darks fly, da/        [Da/  ((giggles))
10   J: [Dolphins/] ((giggles))                 survive= ((grins))    ((frowns))   [What? ((grins))
```

```
-----------------------------------------------------------------------------------
11   C: Sharks/            No, sharks/ Sharks die/ Birdies fly/ ((giggles))
12   J:         Darks! ((teasing tone))                  ((giggles))
-----------------------------------------------------------------------------------
13   C: ((giggly voice)) We do that one!                 Cool! ((starts writing))
14   J:                         ((happy)) Alright then!        ((starts writing))
-----------------------------------------------------------------------------------
```

It is an intense sequence of quick exchanges, with lots of interruptions and overlaps. For example, in lines 5-6, both girls share two images each, which however are articulated almost simultaneously. Similarly, in lines 9-10 the exchanges are either simultaneous, or follow each other without a pause. Yet, this does not mean that the partners ignore each other's input. On the contrary, each suggestion is considered by the other partner (for example, Carina weaves Jenni's ideas – e.g. *sharks, whales* and *dolphins* – into her variations).

Thus, when we look at the content of the exchanges, we find that the frequent interruptions and overlaps do not hinder the joint composition of a line. On the contrary, they signify intensive sharing and joint focus. The partners – without acknowledgement or possibly without much awareness – are influenced by each other's ideas. They bring up all kinds of animals as *themes* for the line – *sharks, dolphins, whales, cows, ducks* and *birdies*. The theme of *sharks* is suggested by Jenni and then taken up by Carina (lines 5-6). This is the most enduring idea, which will be chosen for the first part of the line. However, Carina picks up other ideas from Jenni. For example, the images of *whales* (lines 7-8) and *dolphins* (lines 8-9-10) are first introduced by Jenni, and subsequently appear in Carina's suggestions. (These are later abandoned.) Similarly, Jenni extends one of Carina's themes (lines 9-10: "C: Sharks die, dolphins J: Survive"), and she is also quick to pick up a mispronounced word (Carina in line 9 says "Darks fly, da, da" which Jenni repeats in line 12: "Darks"). Thus, in addition to searching for ideas, both children monitor the other's input. Their ideas form a collective pool, and the line they finally accept – *Sharks die, birdies fly* – is the product of shared

pooling, selection and extension. Again, the central role of emotions is demonstrated by the analysis. The happy tone and giggles (in almost every line) highlight the satisfaction the children gain from the activity, and also show the driving force of emotions in stimulating and maintaining the process of content generation. Lines 13 and 14 round up the episode with the emotion-driven acceptance of the created line by both partners (Carina joyfully decides: "We do that one" and Jenny happily agrees: "Alright then").

As noted earlier, collaborative floor is generally regarded typical of informal situations, or when the purpose is to maintain good social relations. However, our analysis supports the argument that collaborative floor also has *intellectual functions* (Sawyer & Berson, 2004; Tannock, 1998), facilitating the sharing and joint development of creative ideas. The analysis of the larger body of data confirms this argument, pointing at the potential value of such a discourse style to support joint knowledge telling.

A (possibly surprising) finding is that, in such intense brainstorming episodes, interruptions and overlaps do not lead to domination, frustration, and do not impact on the children's shared work negatively. The way they refer to the partnership (*we* as one single entity) in making decisions ("We do that one! Alright then!") or asking for reinforcement and suggestions ("What shall we do?") shows the partners' efforts to establish and maintain equality, mutuality and reciprocity. Thus, mutuality and sharedness is maintained through other-orientation, without adhering to conventions of linear turn-taking. This, in turn, indicates the continuity between the discourse styles prevalent in informal contexts (such as friendship talk or play talk) and the discourse of classroom-based creative content generation.

Discussion

Our research examined processes of classroom-based collaborative creative writing, exploring the nature of productive paired work in this particular setting.

Our analysis demonstrated the significance of emotions in creative writing. This was not restricted to the associative process of creative content generation, but was rather seen as a general feature of all phases involved in creative text composition. In line with the findings by Rojas-Drummond and colleagues (2006) the analysis demonstrates the differences between processes central in creative writing (or creative design in general) and scientific or mathematical problem solving. It also supports our initial assumption that the two types of activities are positioned at two different points on the emotion-intellect continuum. This does not mean that creative writing relies solely on emotion-driven thinking, or that scientific problem solving is purely intellect-driven. Rather, it implies that they differ in their emphasis on emotion and logic which, in turn, is also reflected in the different degrees of reliance on explicit reasoning in the two contexts. Future research needs to examine this distinction, for example by examining collaborative creativity in different subject domains and analysing paired discourse associated with scientific, mathematical, artistic or literary creativity.

Our findings underline the necessity to consider the emotional aspects of cognition. In line with this argument, Roth (2008) directs our attention to an often overlooked aspect of Vygotsky's theoretical work, the significant role he attributed to emotions in thought. Roth reminds us of the often intense affective climate of everyday teaching-learning situations; the emotional challenges arising from facing – and being assisted in – tasks that are yet beyond one's full control, and the expert's responsibility to provide sensitive guidance both in terms of cognitive *and* emotional support. Following Vygotsky's line of thinking, Roth (2008) sees

emotions "as being integral to action and cognition rather than as something that affects cognition from the outside" (p. 2).

Also, our findings emphasise the need to shift the emphasis from pure logic (rational and intellect-driven thinking) towards more complex models for the study of human learning and development. This interpretation is in accord with accounts highlighting the undervalued status of emotions in educational research, and stressing the need to consider *both* logical *and* intuitive thought (Bruner, 1986).

Furthermore, our study has revealed the complexity of the cognitive processes associated with creative writing. It also questions the assumption that the role of emotions is restricted to phases of engagement (or creative content generation). It is argued that reflective phases such as reviewing can also be supported by emotions, in addition to explicit argumentation and logical reasoning. Thus, the clear-cut dichotomy of engagement and reflection needs to be softened by plotting the sub-processes along a continuum of emotion-driven and intellect-driven functioning.

One could go even further and argue that creative writing as such is not a homogenous task. Different types of compositions (different genres) may differ substantially in nature, which may be reflected in the genre-specific features of collaborative discourse. Due to the predominant focus on narrative writing in existing research, contrastive analyses of paired talk in different genres are not yet available. Note that the current research did not provide a large enough data set of other genres (e.g. poems or advertisements), and therefore this issue was not pursued. Future research needs to address this issue, and provide a comprehensive overview of how genre-specific differences impact on the processes of creative writing.

Finally, our work revealed that the study of the use (and usefulness) of overlaps and interruptions appears to be highly relevant in the context of collaborative creative writing. Collaborative floor (Coates, 1996) was found to be indicative of mutual focus and intense sharing, where the overlaps and interruptions are neither chaotic nor off-putting. A child participant in our current study (Vass 2007b) described this fuzzy, organic, non-linear type of collective thinking as 'ripple thinking'. When engaged in ripple thinking, ideas build on each other and get more and more rich and complex, expanding in all directions like ripples of water.

Such playful talk has been likened to theatrical improvisation (Sawyer, 2006), musical jam sessions (Coates, 1996, 2007), or informal friendship-talk (Coates, 1996). Future research is needed to explore these links. However, an interesting implication is the *transferability* and continuity of collaborative and discourse skills between informal and formal contexts. The study also helps practitioners to problematise their own approach to classroom-based discourse. Productive talk in creative contexts may not conform to the views of teachers regarding accepted (tidy or linear) discourse patterns. Rather, it may 'sound' like ripples of water: unbounded, free-flowing and unpredictable. Transforming our classroom practices to accommodate such unpredictability and unboundedness is a significant yet exciting challenge. As Feldman (2008, p. xvi) points out "to succeed in enhancing creative learning for the children of the world is the equivalent of trying to fly an aeroplane at the same time as it is being designed, built, and tested. Piaget and Vygotksy would no doubt be impressed."

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