

Studi e ricerche

Summary writing as cognition and communication. A process of mapping the territory

Angela Piu*, Martin Dodman**, Giuseppina Timpano***

Abstract: The summary is assuming an increasingly significant educational value within the promotion of learning processes. In this article we propose a reconsideration of summary writing through an analogy with Bateson's ecology of mind. We look at the evolution of human language as a communicative and cognitive tool and the development of its written form, which renders it permanent and enhances both intra- and inter-mental reflection. We then consider how the reading-writing process underlying the summary can foster the development of both linguistic and transversal competences and open new directions for educational research.

Keywords: summary writing, cognition, communication, competence, Bateson.

*“[...] for that is the virtue of maps, they
show what can be done with limited space,
they foresee that everything can happen therein”*
José Saramago

1 Introduction

In Italy the introduction of the summary as part of the Final Examinations of both the lower and the upper secondary school (MIUR, 2017) has focused attention on this form of writing and given rise to an ongoing debate concerning its position and importance in school curricula. The ministerial guidelines (MIUR 2018a; MIUR 2018b) have led to a reconsideration of its nature, its educational value, and its potential in the light of current educational needs. They also provide

* Università della Valle d'Aosta, a.piu@univda.it

** Università della Valle d'Aosta, m.dodman@univda.it

*** Università della Valle d'Aosta, g.timpano@univda.it

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guidelines for its use in scholastic contexts within teaching and learning processes, as well as assessment procedures.

The summary has indeed come to be considered as a specific form of writing with its own peculiarity and complexity, an activity that promotes transversal learning processes and goes beyond the widespread idea that limits its use to that of a means of testing the comprehension of a text. It has developed its identity as a form of rewriting texts, a complex activity that gives rise to a new text which is the outcome of a careful identification and structuring of the principal information contained in the original text, a synthesis that is correct and unified in each of its parts and which requires lexical richness and tight-knit syntax (Balboni, 2013; Piu, 2017). Thus, the summary has specific characteristics that include the ability of comprehension but also reach out to encompass conformity to the meaning of the original text, the length, cohesion, and coherence of the new text, as well as attention to the recipients of the text as a form of communication.

From the Italian ministerial guidelines two considerations emerge concerning the educational value of the summary. “The level of engagement it requires and the constraints it imposes” are considered “preparatory for refining the various types of writing learners will encounter in both study and work-related contexts” (MIUR 2018a, p. 7). Emphasis is placed both on its importance and widespread role as a form of textual production in the fields of culture, information and employment and as vital part of the use of language in all communicative contexts. In this way it is linked to educational goals in contemporary society within the framework of the development of transversal competences.

At the same time there is recognition of the need to consider the richness of the summary as a learning activity in relation to the concept of competence. Considering its specificity as a meaningful and important writing task means both extrapolating a map of the processes, the skills and the procedures that need to be activated to promote conscious written communication and developing methodological guidelines for teaching the summary at school (Piu, 2017; Turano, 2020).

Within this framework, this article offers a vision of the summary as a specific form of writing by proposing an analogy with Gregory Bateson’s ecological theory of mind whereby summarizing is seen as an activity involving the mapping of a territory. This is then examined in terms of the invention of writing during the evolution of human language and its overall importance for learning processes. Finally, we develop our view of the summary as both a cognitive and a communicative tool in terms of its educational value in promoting transversal competences and opening new directions for educational research.

② A Batesonian perspective on the summary

Summarizing a text is a highly complex activity involving processes of understanding and interpreting reality. These characterize both the relationship between

individuals and the contexts in which they find themselves and the interactions between individuals in those contexts as a continuous process of communication. Our analysis of the complexity involved refers to the ecological theory of mind proposed by Bateson and his predecessors, and above all to the notion that “the map is not the territory”. As Bateson puts it: “Now, if the territory were uniform, nothing would be reported on the map, except its borders, which are the points where it ceases to be uniform against some larger matrix. What gets onto the map, in fact, be it a difference in altitude, a difference in vegetation, a difference in population structure, a difference in surface, or whatever. Differences are the things that get onto the map” (Bateson, 1972, p. 457). In other words, the map represents the differences which are the “elementary units of information” (Bateson, 1972, p. 459) that give the territory its specific identity.

In this sense, a reader who embarks on the process of reading a text generates a map, a mental representation produced by the reader’s cognitive activity. The map does not coincide with the original text that is read and constitutes the territory for the writer who produced it. The process is rather that of researching what *differences* emerge from reading the text and in turn become the text of the summary. The reader’s cognitive activity creates a new relationship to reality, to other texts, contexts, and individuals, within a continuous process of mutual modeling which is intertextual, inter-contextual and interpersonal. In other words, in the process of generating a map, the mind gathers, re-elaborates, and re-produces the differences, understood as *abstract entities*, through its relationship with the text and its reality.

Abstract entities emerge from the process of interaction with the text and, as Bateson acknowledges, are difficult to define. This process goes beyond the borders of a given text, which are themselves also perceived as a difference. In the face of the infinite number of differences around and within the text, or of what Kant refers to as *potential facts* (Kant, Gargiulo, 1997), and the impossibility of incorporating them all into the mental and communicative processes activated, the reader’s sensory receptors necessarily choose a very limited number of elements, which become the information identified. Thus, what is shown on the map is a representation of what constitutes the retinal representation of the individual who traced the map, in terms of “news of a difference” (Bateson, 1972) that will be selected and expressed in the summary.

In this way, making a summary means carrying out a form of transcoding, or translating, the information present in the original text, the differences identified, into the information stored in memory and then returning it in a new form (Kintsch & van Dijk, 1978; Kintsch, 1994). This involves a highly complex cognitive and linguistic process that leads the reader-writer to transfer onto the map essential ideas that present differences. Each of these denotes a demarcation, a line of classification and hierarchization, and is part of a larger unit on which they have an informational effect and vice versa. Therefore, it is not the single elements of information that generate the map, but rather the relationship and the internal and external interactions between them. These interactions create the play of

meaning-making as both cognition and communication through what they report.

As a cognitive and linguistic procedure (Eco, 1979; van Dijk & Kintsch, 1997), summary writing requires the reciprocal integration of the process of searching for differences and their internal and external relationships and interactions during its phases of reading-comprehension and production-rewriting (Eco, 1979; van Dijk & Kintsch, 1997). As in the situational model of Van Dijk and Kintsch (1983), summaries of such relations and interactions are the outcome of a process that operates at multiple levels ranging from the surface linguistic representation to the propositional representation which organizes micro and macro structural semantic units linked locally and globally within the text. This in turn is based on inferential processes that help fill gaps in the text and grasp the connections between information units, enabling the perception of the coherence between them and leading to the building of a mental representation of the text incorporated within the reader's existing knowledge both in terms of semantic memory and personal experience related to the situations present in the text.

This is a continuous and circular process, the outcome of which are products in which it is difficult to separate what derives both from the process of understanding and from the process of re-elaboration and exposition (Colombo, 2022). In this respect a significant role is played by the interpretative hypotheses projected on the text by the reader-writer. In the context of a subjective experience these include affective as well as cognitive aspects (Bateson, 1979), and are guided by schemata, the ways of organizing knowledge that are recalled from memory to elaborate the summary as text, as well as by personal conceptions of the world and of the self. These direct the process of induction and connection of the given parts of the text, activating anticipations about what will be found in a text, directing and guiding reading and interpretation and in turn being influenced by that process (Levorato, 2000).

The complex processes involved in summarizing a text require the exercise of multiple intersecting skills (Balboni, 2006): - understanding the nature of the text, in the broadest sense, including both surface linguistic aspects (lexical and semantic interpretation), and, at a deep level, conceptual decoding (inferences, encyclopedia...); - identifying the information units based on high-level interpretative and mental schemata (scripts and frames); - identifying a hierarchy between the information units, thereby collocating accessory information at a lower level since it is descriptive, illustrative, redundant, marginal); - selecting the primary information units that, on the basis of the indications for the summary writing task, will constitute the text, and subsequently ordering them on the basis of characteristic models of the given textual type (in the case of the narrative text, typically in the same chronological sequence as the original text); - producing a text (oral and written), which involves planning and reformulation with attention on the linguistic-expressive level related to lexis (use of synonyms, antonyms, hyponyms and meronyms), to morpho-syntactic aspects, and to cohesive devices and local and global coherence.

Thus, from the perspective of Bateson's ecological theory of mind, the summary can be seen as the process of generating a map. This contains a mental representation of the interaction and the relationship between the differences of an intratextual and intertextual nature that a reader-writer gathers, re-elaborates and re-produces through the encounter with a text. Mapping is reporting, an activity of constructing meaning in a process of continuous interaction and relationship between the parts and the whole. The product of this circular process is the summary, or target text, the textual representation of what is contained in the retinal representation of the person who draws the map. This in turn is based on the elementary units of information received, processed, and transformed through its relationship with the territory constituted by the original text.

③ The permanence of writing and its importance as a cognitive and communicative tool

The process of passing from the territory to the map, from the original text to the summary, can be seen as an activity of translation. To translate is to "carry across or over", to take from one place (the territory or the original text) to another (the map or the summary). This process of translation can be seen in the evolution of human language in terms of the development of two principal linguistic channels, the phonic and the graphic. Each of these has characteristics that are particular and different, while at the same time complementary, and the significance of the passage from one channel to another. While a summary can be produced both orally and in writing, our analysis of its role as both a cognitive and a communicative tool reflects the way in which language has evolved to enable both the development of thinking and reasoning and that of interacting and exchanging, and the particular significance of the emergence of the written form in this respect.

Language has been developing in its oral form throughout the 150,000-200,000 years of its phylogenesis (Pagel, 2017). Speech has always been a very powerful tool for researching, discovering, building knowledge, experimenting, consolidating various types of activities and operations necessary for life, using increasingly sophisticated instruments and technologies, and socializing at ever-expanding levels of community. A radical change then occurred when humans began to write, in a still relatively recent past that dates to around 5-6,000 years ago. Writing developed and gradually spread as the result of the increasing impulse to give up a nomadic lifestyle and create some form of stable community. This type of society required the development of a form of stability in language for a range of purposes for which speech was no longer adequate (Halliday, 1989).

Writing provided precisely the kind of permanence in the texts constructed as was required by such social, economic, and cultural developments. Translating language from speech into writing, by moving it from a phonic to a graphic chan-

nel, allowed human beings and the communities of which they were members to record and thereby make permanent experience and knowledge, so that they were available and could be accessed whenever they were needed. This translation of speech into writing is perhaps the most significant of all the developments in the phylogenesis of human language and in the ontogenesis of the human beings who use it. Translating speech into writing is moving language from a place defined by the physics of sound waves, where it can only be heard, to another place defined by the physics of light waves, where it can be seen and repeated, both aloud and as inner speech. Each of these different places has its own peculiar resources for creating the linguistic and cognitive maps of the territories human beings explore, the experiences they live, and the knowledge they build and store.

Writing is a technology that operates at three levels: that of the materials used for its production (e.g., paper and pen or screen and keyboard), that of the storage of the product (e.g., text type, library, digital, multimedia, internet), and that of the various types and levels of interaction that take place between the minds of readers and writers and the written words. While the nature of speech means that it must be processed in real time as it happens and generally presupposes immediate feedback, writing means that both writers and readers can take more time in processing contents, but that feedback may also require some time before it is available. In this way, the invention of writing furnished – and continues to furnish with the emerging literacy of every child – cognitive processes with an instrument for greatly expanding mental activity, freeing cognition from the limitations of memory and creating a potentially limitless store of increasing amounts of information which is permanent. This, in turn, enables recovery of and reflection (*re - flectere* = fold, turn back to, go over again) on what has been accumulated, adding new elements to what is already given, and at the same time further promoting the ability to do so.

Writing also facilitated communicative processes, in that it could be used to create documentation and circulate information, enabling future reference to what had previously been recorded without time limits. The simultaneous presence of both the sender and the receiver, typical of oral communication, was no longer necessary, and written messages could be stored for indefinite periods of time and subsequently used whenever necessary for consultation and checking. Moreover, writing as an activity permits a high level of flexibility, in that it can be modified and perfected during the process of producing it, until the writer is satisfied with the finished product. Writing tends towards organizing, structuring, and formalizing. Reflecting on the written word helps the writer become more precise and concentrate on the choices that create the texture of the text being produced.

Writing serves both as a way of obtaining input and gathering information as well as producing a record of what has been done and creating a text as a final product. In this sense, writing provides a particularly powerful way of understanding and learning through textual activity. Texts are ways of making connections between linguistic elements to create functional units of language used for

both cognitive and communicative purposes. In this respect, as we have already seen, the activity of summary writing provides a particularly powerful stimulus.

The textual function of language has evolved as the variety of ways in which different types of text enable creating connections that reflect and facilitate the neural circuits and networks of the brain and its cognitive activity. This textual function is the basis both for reflecting on and acting in the world. It facilitates the structure and organization of the processes of meaning making by creating a texture of relations in which all the single elements are connected in a cohesive and coherent whole. As a cognitive tool this texture is the basis of intra-mental activity, while as a communicative tool it is the basis of inter-mental activity.

Both understanding and producing texts are based on identifying and realizing a combination of intra-textual and inter-textual relations. The creation and the interpretation of any type of text are simultaneously both an intra-textual process of connecting its constituent parts and an inter-textual process involving the interaction between texts. The meaning of a text emerges through its relationship with other texts.

As learners encounter different text types, this intertextuality becomes a central part of their learning processes. Interacting with a range of different types of text promotes receptive skills related to understanding and interpreting content and productive skills related to narrating, describing, expressing ideas and opinions. Both receptive and productive skills involve engaging the meaning potential of language through deconstructing and building texts, whereby given and new elements constantly interact in the formation of mental schemata and scripts. This textual interplay means that learning is based on the interaction between one's own texts and those of others, the meeting place of intra-mental reflection and inter-mental communication. The summary is a potent example of this in terms of how it translates a text from its original place and characteristics to a new place with different characteristics, thereby giving the activity of summary writing its significant educational value.

④ Opportunities for exploring the educational value of the summary

The activity of mapping a territory involved in summary writing means that the reader-writer is engaged in activating complex interpretative processes. This ongoing process of meaning making and communication involves anticipations, existing mental schemata, and affective states, allowing a personal identity and a personal world picture to emerge during the reading process that encompasses self, others, and context. In this way, summary writing is of great educational value, in that it provides an opportunity to promote competences that are both linguistic and transversal, involving all the diverse spheres of human activity, and enhancing lifelong learning (Council of Europe, 2016, 2018).

The activity of building the texture of the new text and the complex interplay between reading-comprehension, production-rewriting, and revision assume the

characteristics of problem-solving (Hayes & Nash, 1996). Mental schemata and interpretative procedures interact simultaneously both locally and globally with the text, with a central role played by explicit and implicit inferences, together with the application of processes of transformation and elaboration of information. This requires the reciprocal integration of both logical and inferential abilities as well as various levels of linguistic skills and revision that recursively lead to the re-elaboration of the text (Guerriero, 2002). Such *textual reasoning* (Corno, 1991) involves the reader-writer in decoding, analyzing, connecting, comparing, evaluating, and reflecting on both the linguistic and expressive as well as the logical and conceptual features of the text. Thus, it is both an exercise in logic and in style. Indeed, although a certain degree of fidelity and conformity to the original text is required, the summary requires a corresponding level of creativity in terms of the *differences* gathered and re-elaborated and the words chosen to express them through an activity of re-inventing (Natoli, 2014). This process stimulates the summary writer to make decisions based on textual clues that are encountered and searched for on the basis of memory, beliefs, and the ability to find connections and fill in gaps. The aim is to maintain adherence to the text while finding the most effective way of communicating, something which requires reflection, analysis and control over both reading strategies and inferential and linguistic abilities.

Exploring the communicative potential of writing, with its characteristic of greater information density than that of speaking (Lavinio, 2002), requires a flexible use of language involving translation from speech – including the inner speech of thought (Vygotsky, 1962) – to writing and textual manipulation (Guerriero, 2002). This promotes the transversal competence of mediation (Council of Europe, 2001), freeing, and transforming thought (Angelini, 2016) through an interpretative praxis of rendering meaning. It also contributes both to the development of literacy skills and also competences linked to metacognition and problem-solving (World Health Organization - Division of Mental Health, 1994) that are important for study skills, critical thinking, and personal skills (Council of Europe, 2006, 2018; MIUR, 2012) as well as fundamental for identity building.

In the same way, summary writing has an educational value in terms of social and communicative competence, since adapting writing to the characteristics of the linguistic code and to the purposes of communication, leads to restructuring of the very substance of thinking as a process and developing and exercising linguistic skills from the perspective of a “richer participation in social and intellectual life” (Giscler, 1975). The text becomes an object from which to distance oneself and explore its different points of view, promoting what Marinetto (2020) defines as an individual competence with social value. “It is indeed precisely at the social and political level that today it is of great importance for young people to be able to recognize different points of view, without confusing them in an undifferentiated amalgam. This is the first step to subsequently identifying and defining (in contrast, in agreement or in partial agreement), one’s own point of view, an intellectual and ethical passage which is the premise of a conscious citizenship” (p. 983).

Since it conforms to and places itself in a subordinate relationship to texts produced by others, summary writing is of great significance for the personal and social development of the individual. It relativizes the centrality of the self and establishes a relationship of attention and otherness that “requires both duty to truth [educating], and, consequently, honesty towards the text and in general towards others” (Natoli, 2014, p. 128), with consequent benefits for the individual and society at large.

Within this perspective, the activity of summary writing clearly contributes to the acquisition of linguistic and transversal competences (World Health Organization - Division of Mental Health, 1994), related both to learning to learn and the promotion of active citizenship (Council of Europe, 2006, 2018), thereby assuming a multi-faceted educational value. In this respect, we believe that a Batesonian approach to summary writing can offer new opportunities for reflection, analysis and dialogue in various educational contexts and suggest new directions for educational research.

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