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A Systems Thinking Approach to Reflective Practice in Blogs

Implications on Social-Emotional Learning and Resilience Building

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ABSTRACT

In the present paper, we propose a model for reflective practice in blogs based on Systems Thinking aiming to promote social-emotional learning, and we discuss its theoretical underpinnings. Reflective blogging can be an invaluable tool for peer learning and professional development, particularly in appreciative environments where people feel safe to share their experiences. The proposed model introduces Systems Thinking as an effective way to facilitate group reflective practice for social-emotional learning and resilience building in a blended learning environment. Participants practice how to acknowledge different perspectives and how to integrate them into a coherent group narrative, the collective story of their community. Systems thinking entails a shift of focus from the parts to the relationships between and treats any group of participants as a living network, a learning rhizome in the becoming. In this view, collective intelligence rises as an emergent system property. We provide the case of a recent implementation of the proposed model to reflect and elaborate further on practical aspects of the approach, such as how to cultivate reflective writing among the participants, how to synthesize a group meta-narrative, how to evaluate individual contributions, and how to nurture a learning organization. The aim is to present a concise and authentic account of this approach so as to enable other educators and practitioners to get inspiration, make necessary adaptations, and utilize it in their own practice.

KEYWORDS

Systems, Blogging, Complexity, Resilience, Social Emotional Learning, Narrative Inquiry

1 Introduction

In the present paper, we propose a model for group reflective practice utilizing blogs and informed by a complex systems epistemology. In the proposed model, participants in a learning community have the opportunity to reflect on their lived experience in their personal blogs following a face-to-face (or virtual) meeting (like in a university lecture). All personal blogs are interconnected through a central site, forming a networked-learning landscape. By sharing their own reflections with their peers, participants become aware of and acknowledge all the different views and voices and, by doing so, enrich their own perspectives in a multivoiced learning chronotope (Holquist, 2002). A facilitator coordinates the whole process as a *quide on the side* of the group. The technological infrastructure to support such a system is based on widely available web 2.0 tools (Rheingold & Weeks, 2012), and it is described in full detail elsewhere (Brailas, Koskinas, & Alexias, 2016). A key feature of the proposed model is that reflective practice follows every group meeting (either face-to-face or virtual) where participants usually work collaboratively. That is, individual reflections are from the very beginning products of a group process [4, 5]. At the same time, participants' reflections gradually create a collective digital footprint, their group's collective narrative (Papadopoulos, 1999) consisting of the sum of the individual reflections as well as a set of patchwork texts summarizing contributions on a weekly basis.

Reflective blogging is widely used in higher education and/or professional development settings. Reflective blogging enhances the educational experience by acting as a mediator between the classroom and professional practice (Beale, 2007). Reflective journaling in blogs also facilitates retention of concepts learned during the lectures (Bouldin, Holmes, & Fortenberry, 2006). Blogs as a medium for reflective practice calls our attention to its inherent multimodality and collaborative affordances that promote learning (Kajder & Parkes, 2012). Reflective practice in groups can also increase creativity among the participants and in the group as a whole (Kenny, 2008). Reflective diaries in peer support networks facilitate reflective group dialogue and professional development (Killeavy & Moloney, 2010). Blog discussions help learners integrate theory to practice, cultivate reflective practice, and enhance learning in clinical fieldwork (Ladyshewsky & Gardner, 2008; Levine, 2014). Collaborative blogging in practitioner-oriented courses helps students practice critical thinking (Osman & Koh, 2013). Despite the commitment and time required for deep reflective practice in a group, the whole experience can be described as transformative (Smidt, Wheeler, Peralta, & Bell, 2018).

However, the here proposed model introduces Systems Thinking as a major way to facilitate group interactions and promote deep group reflection in a networked blogging environment. We also provide a recent implementation of the proposed model in an undergraduate course (https://cyberpsy.edublogs.org) offered at the Department of Psychology in Panteion University, Athens, Greece (during the Spring semester of the 2018-

19 academic year). We elaborate further on specific aspects of the approach, such as how to cultivate reflective writing skills, how to compile weekly group (meta)narratives based on the individual reflections, and how to evaluate individual contributions (if this is required by the educational setting). Next, we discuss the theoretical underpinnings and implications of the approach.

2 Reflective Writing and Blogs

Reflective writing in blogs is an invaluable tool for promoting peer learning and personal and professional development, particularly in appreciative environments (McAdam & Mirza, 2009) where people feel safe to share authentic experiences and learn from each other (Brailas, Avani, et al., 2017; Brailas et al., 2016). Schön first introduced the term *reflective practice* as a way for fostering personal and professional development in his seminal book *The Reflective Practitioner: How Professionals Think in Action* (Schön, 1983). Reflective practice implies that a person actively reflects upon the past or current events and uses the insights gained from this metacognitive process to inform their future actions (Moon, 2006). Reflective practice in groups of peers allows practitioners, especially those working with human systems like educators and health care professionals, to learn from their own experiences and to enhance their perspectives (Brailas et al., 2016). Reflection is more useful when applied to non-trivial knowledge: "to relatively complicated, ill-structured ideas for which there is not an obvious solution and is largely based on the further processing of knowledge and understanding that we already possess." (Moon, 2006, p. 37)

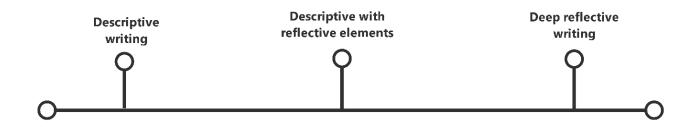


Figure 1: A reflective writing continuum. The aim is for the participants to gradually cultivate their reflective writing skills in an appreciative environment that provides authentic and constructive feedback to everyone.

Figure 1 illustrates a continuum of reflective writing, ranging from descriptive and superficially reflective accounts to deep-reflective texts. Figure 1 helps us realize that reflective writing is not a black or white territory; the aim is for participants to gradually improve their ability to reflect on their experience. Moon [20, 21] provides clear indications for the 'reflexivity' level of a text. Based on her work, moving from the left to the right of this continuum entails changes in the following ways:

- Emotions involved in the event are acknowledged.
- The individual becomes an observer of their own behavior.
- An internal dialogue begins to emerge.
- Contextual information is seriously taken into account.
- The individual becomes able to challenge their own ideas.
- Different views are realized and acknowledged.
- Critical thinking is present.
- Painful and difficult questions are being asked.

Reflective writing entails authenticity. However, in an open-web environment, matters of confidentiality are critical, and reflective writing always should be intimate enough to be an authentic account, but no more (Brailas et al., 2019). Following a Systemic-Dialectic approach in our practice introduced by George and Vasso Vassiliou (Polemi-Todoulou, 2018b), we were initially presenting participants with four guiding questions to help them initiate their reflections:

- What did I learn?
- What did I understand?
- How did I feel?
- What do I like to ask?

These four guiding questions open up space for meaningful reflection to take place, involving cognitive thinking, emotions, and self-questioning.

3 Systems Thinking in Action

Providing an extensive discussion on systems thinking is far beyond the scope of this article. The literature on systems theory is extended and well developed in the fields of both education and psychology (Kauffman, 1996; Davis, Sumara, & Luce-Kapler, 2015; Capra, 2003; Sumara & Davis, 1997; Byrne, 2014). Nevertheless, to understand how systems thinking works in the proposed model, we will provide all the necessary information. Thinking in systems implies focusing more on the relations between, instead of focusing on the parts. Trying to understand the pattern that connects the parts (Capra & Luisi, 2014) is key. Therefore, for systems thinking to be applied in our approach, the facilitator of the process needs to focus their attention on how the participants' reflections are related to each other, instead of focusing on the actual content of the individual contributions. The critical question for the educator to answer is: "What has the group said as a whole?" How does the meaning of each contribution change if it is considered in the context that all contributions co-create? The main task of the facilitator is to listen carefully to each voice expressed in an appreciative way (McAdam & Lang, 2003), and then to set the different views in a dialogue, and, finally, to reflect back a unifying synthesis in the form of a

(meta)narrative [5, 34, 35]. This narrative synthesis can be realized as 'the pattern that connects the dots'—a manifestation of the group's collective intelligence.

At the level of the technological infrastructure, a central course hub site (Figure 2) is necessary for aggregating the flow of the individual contributions to make them available to the whole group. The hub serves as the online recording of the group's history. From the sequence of the participants' reflections, as these are aggregated and appear in the course hub, a group meta-narrative is compiled by the educator (who acts at this point as group facilitator) in the form of a patchwork test. In this narrative synthesis, the educator tries to accommodate all the different perspectives, avoid scapegoating (every voice matters), and put them in a constructive dialogue, in order to allow for a qualitatively new, more complex understanding to emerge.

The trainer listens to these reports, viewing them as expressions of the different inner voices of the group. He/she tries to understand the content, sequence and metaphors of the different voices in relation to the context/goal of the particular training session and the theme under discussion. At this time, the trainer's role is to actualize and integrate the flow of difference in the group's voices. This is done by generating meaning from the metaphors within the context of the sequence they are expressed and by reflecting, back to the group, a unifying synthesis relevant to the whole group process. The trainer may be seen as an 'outside witness' of the group process. One who expresses to the group his/her understanding of what evolved, as a 'one-person reflecting team', so facilitating the development of a new level of integrative collaborative understanding. (Polychroni et al., 2008, p. 34)

Every individual reflection is treated as a contribution that would reveal new insights if seen in the context that all reflections co-create altogether, that is if seen as a constituent block in an emerging story sequence (Arnold, 1962). The meta-narrative synthesis creates a virtual mirror that helps participants face their unspoken stories and realize that multiple perspectives and ways to see the reality co-exist. This emerging narrative synthesis is consequently reflected back to the group by the educator as a blog entry in the central hub (Figure 2). This meta-narrative should go beyond what is directly expressed in the words of the individual reflections, revealing the unspoken beliefs, the underlying group processes, and the issues raised, reframing what has been shared on a higher level of complexity (Salichos & Polychroni, 2018). This is a fundamental shift in perspective, seeing individual contributions as one network of interconnected nodes, a learning rhizome in the becoming (Brailas, 2020). Systems thinking is necessary to create, as well as to understand, this rhizome.

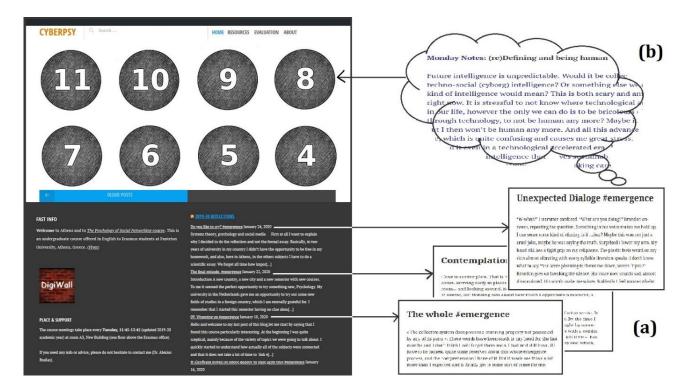


Figure 2: A course blog site (on the left part of the image) acts as a hub for aggregating participants' reflections from their personal blogs. (a) Individual reflections become available to the whole group. (b) The narrative synthesis is uploaded to the course site as a weekly blog entry. The whole system is implemented by utilizing widely used web technologies. Case source: https://cyberpsy.edublogs.org

4 Assessment for Inclusion

If reflective blogging is used in formal educational settings and official assessment is required, then two basic strategies can be implemented, each one having specific advantages and disadvantages. The first, and maybe more traditional way, is to employ a grading rubric to evaluate the individual contributions according to their level of reflexivity. A graduated scenarios approach (Moon, 2010) can be used to demonstrate this evaluation process to the participants. Graduated scenarios represent different accounts of the same paradigmatic story, each one representing a different position on the reflecting writing continuum presented in Figure 1. Everything comes at a cost. Assessing reflective writing in the above way bears the danger to render the whole process more gimmick and less authentic and systemic, having the students writing only to achieve a higher grade. However, reflexivity prerequisites authenticity; writing for a grade is in stark contrast to being genuinely reflective. Whether reflections should be assessed is a question that problematized scholars long before (Moon, 2006). A systemic view on the whole group process keeps reminding us that it is the difference that makes the difference. Hence, every contribution is valuable and needed for the whole picture to emerge. As it is said in the proverb, a dwarf standing on the shoulders of a giant may see further than the giant himself. Diversity, variance, abundance, and flexibility are critical properties for assuring living systems resilience (Capra & Luisi, 2014). In a group of students, it is well expected for some contributions to be more descriptive and some others to be adequately reflective. It is the relation between the contributions, the pattern that connects them, which matters in a whole group pedagogy. In an assessment informed by systems theory, it is crucial to avoid producing scapegoats and to adopt an 'every voice has a value that cannot be measured and can make the difference to the whole group' mentality. Therefore, a compromise is needed to produce the required assessments and deliver grades in a formal education setting. In our practice, we manage this by assigning specific evaluation points (a percentage of the final grade) to the individual contributions, regardless of their position on the reflective writing continuum. We asked only for a minimum number of words for each contribution (about 250). Although this can also make some contributions gimmickier, we think this is necessary to communicate the idea that reflective writing requires some time to stand back and reflect on your experience. A length of 250 words is long enough to help participants to allow themselves a minimum time to reflect on their experience and initiate authentic, reflective writing.

5 Systems Thinking and Social Emotional Learning

Social and Emotional Learning (SEL) refers to a framework that provides learners of all ages with "the skills necessary for attaining and maintaining personal well-being and positive relationships across the life span" (Brackett, Bailey, Hoffmann, & Simmons, 2019, p. 144). According to the CASEL initiative (https://casel.org/what-is-sel/), "Social and emotional learning is the process through which children and adults understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions." Goleman and Senge (Goleman & Senge, 2014) highlighted the connection between SEL and systems theory by proposing an approach to education that integrates three critical skill groups: (a) focus on the self (connection to our inner world), (b) focus on the other (empathy and understanding of their reality) and (c) focus on the context (understanding of the broader context and how this interferes with our own reality). The here proposed model manages to cultivate this triple focus. Individual reflective writing is attained by addressing the four guiding questions ("What did I learn? What did I understand? How did I feel? What do I like to ask?") helps participants to initiate an internal dialogue and focus on the self. By having access to other members' reflections, participants are able to see the world through the others' shoes and establish meaningful connections despite possible different perspectives: "Keeping our hearts together and our minds apart ... meaning fostering a safe relational context that allows the emerging differences to become a source of growth through their elaboration and synthesis." (Polemi-Todoulou, 2018a, p. 3) Finally, through the collective

(meta)narrative, the educator puts the individual contributions into a dialogue with each other and highlights the connections with the broader context and the interdependent systems.

6 Resilience Out of Chaos

The central theme in defining psychological resilience is the ability of an individual to cope with the inevitable adversities of life having a positive adaptation (Fletcher & Sarkar, 2013). This idea resonates with Prigogine's theory on the far-from-equilibrium dynamical systems (Prigogine & Stengers, 1997). Psychological resilience describes an individual's ability to adapt successfully each time they experience significant adversity, and to return successfully to previous levels of mental, physical, and social functioning, or, even better, to go one step further and attain further development. Prigogine's work on complex systems demonstrated how inevitable perturbations could drive a living system to a far-from-equilibrium condition, facing a bifurcation point (Feldman, 2012). At the edge of Chaos, everything is possible; against the second law of the thermodynamics, self-organization takes place, and islands of anotropy (a term coined by Vassiliou to better convey the meaning of negentropy) (Vassiliou & Vassiliou, 1985) can be formed, making evolution and self-organization of living systems possible amid an entropic universe. In a systems view of life, resilience can be understood as an emergent system property (Berkes & Ross, 2013), and individual or group resilience can be realized as a mere manifestation of the whole-system development. Redundancy and diversity are critical for creating the optimal conditions for resilience to emerge (Capra & Luisi, 2014; Low, Ostrom, Simon, & Wilson, 2002). In von Foerster's [46] words, always act so as to increase the number of choices. Resilience in ecological systems comes from diversity. For example, diversity in available food resources increases the survival chances for species in case of a loss of a specific kind of food supply. In the case of education and professional development, diversity in perspectives is crucial for the health of a community as it is the difference that makes the difference (Bateson, 1972).

7 Concluding Thoughts

Blogging and reflective writing in journals are two well-established practices broadly used for many years in educational and professional settings to promote learning and professional development. Systems thinking, by shifting the focus from the individuals to the relations between them, and from the different perspectives articulated to the pattern that connects them, opens up a new space for complex dynamics to unfold. In the proposed systemic reflective model, all the different perspectives that have been expressed in the individual blogs are integrated into a narrative synthesis without scapegoating any voice. It is a multivoiced collective narrative that tells a new story at a higher level of complexity, as the manifestation of the whole system's wisdom.

During the change process, some of the old structures may fall apart, but if the supportive climate and the feedback loops in the network of communications persist, new and more meaningful structures are likely to emerge. When that happens, people often feel a sense of wonder and elation, and now the leader's role is to acknowledge these emotions and provide opportunities for celebration. (Capra, 2010)

It is in the eyes of the students shining in their 'Aha!' moments when experiencing the emerging new in their collective meta-narrative that you realize what creativity and discovery through collaboration means to students. During this anotropic (Vassiliou & Vassiliou, 1985) process, participants cultivate social-emotional skills, manage to acknowledge different perspectives, and experience how these different, and often opposing, perspectives can be put into a constructive dialogue. The whole model demonstrates an appreciative and inclusive pedagogy in a technology-enhanced learning environment.

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REFERENCES

- Arnold, M. B. (1962). Story Sequence Analysis: A New Method of Measuring Motivation and Predicting Achievement. New York: Columbia University Press.
- Bateson, G. (1972). Steps to an ecology of mind. Chicago: University of Chicago Press.
- Beale, R. (2007). Blogs, reflective practice and student-centered learning. *Proceedings of the 21st British HCI Group Annual Conference on People and Computers: HCI... but Not as We Know It Volume 2*, 3–6. University of Lancaster, United Kingdom: British Computer Society.
- Berkes, F., & Ross, H. (2013). Community Resilience: Toward an Integrated Approach. *Society & Natural Resources*, *26*(1), 5–20. https://doi.org/10.1080/08941920.2012.736605
- Bouldin, A. S., Holmes, E. R., & Fortenberry, M. L. (2006). "Blogging" About Course Concepts: Using Technology for Reflective Journaling in a Communications Class. *American Journal of Pharmaceutical Education*, 70(4), 84. https://doi.org/10.5688/aj700484
- Brackett, M. A., Bailey, C. S., Hoffmann, J. D., & Simmons, D. N. (2019). RULER: A Theory-Driven, Systemic Approach to Social, Emotional, and Academic Learning. *Educational Psychologist*, *54*(3), 144–161. https://doi.org/10.1080/00461520.2019.1614447
- Brailas, A. (2020). Designed to allow for Emergence: A Learning Rhizome. *Research Catalogue*. https://doi.org/10.22501/rc.782366

- Brailas, A., Avani, S., Gkini, C., Deilogkou, M., Koskinas, K., & Alexias, G. (2017). Experiential Learning in Action: A Collaborative Inquiry. *The Qualitative Report*, *22*(1), 271-288. Retrieved from https://nsuworks.nova.edu/tqr/vol22/iss1/15.
- Brailas, A., Avani, S.-M., Gkini, C., Deilogkou, M.-A., Dimitriadis, G., Thravalou, E., ... Koskinas, K. (2019). Group work, reflective practice and blogging in academic teaching:

 Developing peer learning networks. *PsyArxiv*. https://doi.org/10.31234/osf.io/stjv2
- Brailas, A., Koskinas, K., & Alexias, G. (2016). Design and implementation of a web-based system to support collective reflective practice. *International Journal of Designs for Learning*, 7(3), 95–104. https://doi.org/10.14434/ijdl.v7i3.18864
- Brailas, A., Koskinas, K., & Alexias, G. (2017). Teaching to emerge: Toward a bottom-up pedagogy. *Cogent Education*, *4*(1), 1377506. https://doi.org/10.1080/2331186X.2017.1377506
- Byrne, D. (2014). Thoughts on a Pedagogy OF complexity. *Complicity: An International Journal of Complexity and Education*, 11(2), 40–50.
- Capra, F. (2003). *The Hidden Connections: A Science for Sustainable Living*. London: Flamingo.
- Capra, F. (2010). Life and leadership for a sustainable community: Lessons on how to sustain life by building and nurturing community. Retrieved from Center For Ecoliteracy website: https://www.ecoliteracy.org/article/life-and-leadership-sustainable-community
- Capra, F., & Luisi, P. L. (2014). *The Systems View of Life: A Unifying Vision*. UK: Cambridge University Press.
- Davis, B., Sumara, D., & Luce-Kapler, R. (2015). *Engaging Minds: Cultures of Education and Practices of Teaching*. New York: Routledge.
- Feldman, D. P. (2012). *Chaos and Fractals: An Elementary Introduction*. UK: Oxford University Press.
- Fletcher, D., & Sarkar, M. (2013). Psychological Resilience: A Review and Critique of Definitions, Concepts, and Theory. *European Psychologist*, *18*(1), 12–23. https://doi.org/10.1027/1016-9040/a000124
- Goleman, D., & Senge, P. (2014). *The Triple Focus: A New Approach to Education*. USA: More Than Sound Productions.
- Holquist, M. (2002). Dialogism: Bakhtin and His World. New York: Routledge.
- Kajder, S., & Parkes, K. (2012). Examining Preservice Teachers' Reflective Practice within and across Multimodal Writing Environments. *Journal of Technology and Teacher Education*, *20*(3), 229–249.
- Kauffman, S. (1996). *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity.* USA: Oxford University Press.
- Kenny, R. M. (2008). The Whole is Greater: Reflective Practice, Human Development and Fields of Consciousness and Collaborative Creativity. *World Futures*, *64*(8), 590–630. https://doi.org/10.1080/02604020802392195

- Killeavy, M., & Moloney, A. (2010). Reflection in a social space: Can blogging support reflective practice for beginning teachers? *Teaching and Teacher Education*, *26*(4), 1070–1076. https://doi.org/10.1016/j.tate.2009.11.002
- Ladyshewsky, R. K., & Gardner, P. (2008). Peer assisted learning and blogging: A strategy to promote reflective practice during clinical fieldwork. *Australasian Journal of Educational Technology*, *24*(3). https://doi.org/10.14742/ajet.1207
- Levine, T. C. (2014). The Use of Blogging in Tertiary Healthcare Educational Settings to Enhance Reflective Learning in Nursing Leadership: *Journal for Nurses in Professional Development*, *30*(6), 287–295. https://doi.org/10.1097/NND.00000000000000103
- Low, B., Ostrom, E., Simon, C., & Wilson, J. (2002). Redundancy and diversity: Do they influence optimal management? In C. Folke, F. Berkes, & J. Colding (Eds.), *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change* (pp. 83–114). Cambridge: Cambridge University Press. Cambridge Core. https://doi.org/10.1017/CBO9780511541957.007
- McAdam, E., & Lang, P. (2003). Working in the Worlds of Children: Growing, Schools, Families, Communities Through Imagining. *The International Journal of Narrative Therapy and Community Work, 2003*, 48.
- McAdam, E., & Mirza, K. A. H. (2009). Drugs, hopes and dreams: Appreciative inquiry with marginalized young people using drugs and alcohol. *Journal of Family Therapy*, *31*(2), 175–193. https://doi.org/10.1111/j.1467-6427.2009.00461.x
- Moon, J. A. (2006). *Learning journals: A handbook for reflective practice and professional development* (2nd ed). London; New York: Routledge.
- Moon, J. A. (2010). *Using story: In higher education and professional development* (1st ed). New York: Routledge.
- Osman, G., & Koh, J. H. L. (2013). Understanding management students' reflective practice through blogging. *The Internet and Higher Education*, *16*, 23–31. https://doi.org/10.1016/j.iheduc.2012.07.001
- Papadopoulos, R. K. (1999). Storied community as secure base: Rersponse to the paper by Nancy Caro Hollander "Exile: Paradoxes of loss and creativity." *British Journal of Psychotherapy*, *15*(3), 322–332. https://doi.org/10.1111/j.1752-0118.1999.tb00456.x
- Polemi-Todoulou, M. (2018a). Systemic-Dialectic- Multilevel-Multifocal Approach. In J. Lebow, A. Chambers, & D. C. Breunlin (Eds.), *Encyclopedia of Couple and Family Therapy* (pp. 1–5). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-15877-8_983-1
- Polemi-Todoulou, M. (2018b). Vassiliou, George and Vasso. In J. Lebow, A. Chambers, & D. C. Breunlin (Eds.), *Encyclopedia of Couple and Family Therapy* (pp. 1–5). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-15877-8_955-1
- Polychroni, K., Gournas, G., & Sakkas, D. (2008). Actualizing Inner Voices and the Group Process: Experiential Training in Personal Development. *Human Systems: The Journal of Therapy, Consultation & Training, 19*(1), 26–43.
- Prigogine, I., & Stengers, I. (1997). *The End of Certainty. Time, Chaos, and the New Laws of Nature*. New York: Free Press.

- Rheingold, H., & Weeks, A. (2012). Net Smart: How to Thrive Online. MIT Press.
- Salichos, P., & Polychroni, K. (2018). *Handbook of Training in the Systemic-Dialectic Approach to Working with Youth at Risk*. Athens, Greece: Athenian Institute of Anthropos (AIA).
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. USA: Basic Books.
- Smidt, A., Wheeler, P., Peralta, L., & Bell, A. (2018). Transformative and troublesome: Reflective blogging for professional learning about university teaching. *Reflective Practice*, *19*(4), 474–489. https://doi.org/10.1080/14623943.2018.1525345
- Sumara, D. J., & Davis, B. (1997). Enactivist theory and community learning: Toward a complexified understanding of action research. *Educational Action Research*, *5*, 422.
- Vassiliou, G. A., & Vassiliou, V. G. (1985). Developing Jointly with the Family System the Therapeutic Process by Using Analogic Communication. In P. Pichot, P. Berner, R. Wolf, & K. Thau (Eds.), *Psychiatry the State of the Art: Volume 4 Psychotherapy and Psychosomatic Medicine* (pp. 85–88). Boston, MA: Springer US. https://doi.org/10.1007/978-1-4684-4697-5_15
- von Foerster, H., & von Foerster, H. (2003). Notes on an Epistemology for Living Things. In *Understanding Understanding: Essays on Cybernetics and Cognition* (pp. 247–259). New York, NY: Springer New York. https://doi.org/10.1007/0-387-21722-3_10