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**Development and testing of an interdisciplinary photography-based curriculum for increasing
Social-Emotional Learning in high school students**

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List of Published Articles

1. Gielgun-Katz, A., & Rusu, A. S. (2023). Say Cheese! Can Photography Influence Students' Well-Being, Learning Skills And Interpersonal Relationship?. In I. Albulescu, & C. Stan (Eds.), *Education, Reflection, Development - ERD 2022*, 6. European Proceedings of Educational Sciences (pp. 399-410). European Publisher.
<https://doi.org/10.15405/epes.23056.36>
2. Gielgun-Katz, A., & Rusu, A. S. (2023). Photography-Based Pedagogy in Relation to Social-Emotional Learning in Adolescents - Systematic Literature Review. *Educatia 21 Journal*, 25, pp. 127-136. doi: 10.24193/ed21.2023.25.13
3. Gielgun-Katz, A., & Rusu, A. S. (in press). The socio-emotional impact of a photography-based program in high school students - a quantitative investigation. *International Journal of Technology and Inclusive Education*.

Abstract

This study examines the use of photography as a visual tool to empower the level of SEL and sense of class community in high school students. The research was grounded in four main studies: a systematic literature review that explored the relationship between photography and social and emotional learning (SEL) in global research, a survey targeting teachers to gather their perspectives on integrating photography into lesson plans, an intervention program (SELVEs) carried out with 10th-grade students, and tested through both quantitative and qualitative research approaches.

Participants - 157 students took part in the research, with 49 students assigned to the wording-based tools group, 51 students to the photography-based tools group, and 57 students to the control group.

Research tools - The research used both quantitative and qualitative tools. For the teacher study, a survey was conducted using questions from Asulin's (2019) questionnaire and Center for Community Health and Development recommendations (2022), along with open-ended questions. In the students' quantitative study (Study 3), two closed questionnaires were used: the Social Skill Improvement System (SSIS) by Anthony and colleagues (2020), and the Classroom Community Scale (CCS), by Rovai (2002). The students' qualitative study (Study 4) involved focus groups and open-ended questions as an additional session.

Theoretical fundamentals - The study is founded on two primary frameworks: The SEL model (CASEL, 2005, 2020), which outlines social-emotional learning based on five key components: self-awareness, social awareness, relationship skills, self-management, and responsible decision-making; The Photovoice model (Wang & Burris, 1997) connects photography with social awareness, offering insight into others' perspectives through photography.

The main findings of the research revealed that the intervention program significantly improved all social and emotional learning (SEL) factors in both groups that participated in the social-emotional learning program for visual empowerment (SELVEs). Furthermore, the use of active photography had a positive effect on the SEL variables, with the most significant change being an improvement in social awareness and responsible decision-making, along with a relationship skills factor that was split between the two. It was found that these factors affect the feeling of belonging to the class. In addition, the qualitative findings indicated a significant improvement in self-awareness and relationship skills among the users of photography as a pedagogical tool, which is not evident in the quantitative findings. Three months after the implementation of the program, the differences between the two groups that participated in the intervention program were reduced in almost all factors, with the photography-based group still having an advantage. Moreover, the study found that most teachers were open to using photography as a pedagogical tool and saw its benefits. However, they needed proper training due to insecurity about using the tool incorrectly.

Conclusions - The research significantly advance our understanding of using photography as a pedagogical tool to enhance SEL and foster a sense of community in the classroom. It underscores the importance of practical photography pedagogy among adolescents to improve their well-being. It also highlights the necessity of teaching students how to ethically and effectively use photography, addressing concerns raised by teachers. Providing students with autonomy in utilizing photography can facilitate deeper engagement and foster a sense of responsibility. The research also emphasizes the importance of training programs for teachers to integrate photography into classroom activities confidently. The program developed in this research holds promise for implementation in diverse cultural contexts to promote cross-cultural understanding and personal growth. Overall, this research lays a solid foundation for developing effective training programs and educational interventions centered around using photography as a pedagogical tool.

Introduction

The purpose of the current research is to examine the effects of an intervention program that incorporates photography or wording on improving the five aspects of Social and Emotional Learning (SEL) (CASEL, 2005, 2020) and the sense of community (McMillan & Chavis, 1986) in the classroom among high school students. Many studies have already been conducted on the subject of socio-emotional learning (CASEL, 2020; Haymovitz et al., 2018; Ross & Tolan, 2017; Voight, 2015), proving that the SEL model helps in learning and increases the levels of self-and social awareness, self-management, responsible decision-making, and social skills, all of which have the potential to empower and enrich the student, the learning process, and the school.

As part of the society's changes in the 21st century, communication through social networks is a very common practice. It has already become a language in itself, mainly because most of the social networks are now in the palm of every student's hand when using a smartphone. Most of the conversations on social networks are conducted with the help of a camera. Hence, documenting and sharing photos, videos, games, emotions, and more are conducted visually. The use of photography on an everyday level base has facilitated the development of a new language, which is an intercultural common denominator and easy to understand.

A combination of the SEL model together with expression through photography can create an innovative model of immediate, emotional, easy-to-understand, realistic, and reflective discourse, which puts on the table what is visible from the eyes of the observer. In addition, photography encourages empathy and compassion between the students and other persons, which allows an opportunity for active participation, not only with the help of verbal communication, i.e., words, even for those who are more introverted or are experiencing social anxiety (Taylor et al., 2017; Yeager, 2017).

Problem Statement: I have chosen to address photography as a pedagogical tool for developing SEL skills as the focus of my research because of the development of the visual language among adolescents, as a new communication route and the lack of inadequate consideration of the subject

from the education system point of view as a significant factor in the cultivation of personal and social skills. The earlier the education system uses this tool and connects the educational staff to it, the more we can reach and connect with the students closely at a more practical level, and understand them and their needs.

Gaps in Knowledge: Previous studies have been conducted in the field of photography and education since the 1950s, referring to the development of technology, specifically in the visual aspects (Curran & Hamlin, 1955; Greenberg, 1988; Hulick, 1992; Licul, 2020; Orrick, 1969; Rigos & Salemmé, 1999). Most studies examined the didactic and academic aspects of adding an additional pedagogical tool. Similarly, the awareness of SEL as a part of the education field began almost 30 years ago, and since then, it has piled up from basic levels to field applications (i.e., Araúz Ledezma et al., 2021; Durlak et al., 2011; Elksnin & Elksnin, 2003; Haymovitz et al., 2018; Xu et al., 2023). The literature review prepared as a basis for this research found that a lot has been written about children and art education (Mađry-Kupiec, 2021; Smilkov & Jovanova-Mitkovska, 2022; Stara, 2021), but there is a vague reference to youth. Many educational programs use photography as an expression tool (Bates et al., 2017; Kümmerling-Meibauer, 2023). Less studies use the combination of both photography and SEL, and even less with combining high school students (Chisholm & Whitmore, 2018; Elsaesser et al., 2021; Felt et al., 2012; Howley et al., 2021).

The Research Aim: This doctoral research aims to examine the use of photography as a visual tool to empower the level of SEL in high school students. As part of the research, two interventions consisting in educational programs (courses) will be conducted with two groups of 15-16 years old high school students in Israel. Both courses are identical in content and SEL-based, with one using photography and the other using text. In addition, a survey is conducted among teachers to explore their opinions regarding the use of photography as a pedagogical tool.

The study investigates research questions using data from qualitative and quantitative sources. The research questions are divided according to the four studies in the thesis. The questions are as follows:

Study 1 (Systematic literature review): What is the current state of research-informed knowledge regarding intervention educational programs incorporating photography to promote SEL in adolescents?

Study 2 (Teachers' survey): 1. What is the opinion of the teachers regarding the scope of using photography among students (children and young) compared with the scope of use among teachers (adults)? 2. What are the teachers' opinions about the impact of using photographic media in society? 3. What are the teachers' opinions regarding integrating photography tools in different populations and organizations? 4. Will there be a correlation between the teachers' demographic data and their opinions? 5. What are the teachers' positions regarding the integration of photography technology as part of the curriculum in the education system?

Study 3 (Quantitative research among students): 1. Would the three groups (SEL-Photography-Based - SEL-PB, SEL-Wording-Based - SEL-WB, control) significantly differ in their improvement of SEL and sense of classroom community measures? 2. Would improvement in the SEL aspects and the improvement in sense of classroom community significantly correlate? 3. Will the demographic characteristics of the high school students as well as their grouping assignment explain their level of improvement in the SEL aspects and the sense of community in the classroom? **Study 4 (Qualitative research among students):** 1. What are the perceptions of both groups about themselves and their classmates after participating in the intervention program that incorporates social and emotional learning (SEL) skills along with different pedagogical tools? 2. What are the opinions of the participants from the two experimental groups regarding the implementation of photography in classroom settings as a part of the curriculum?

CHAPTER 1. THEORETICAL FUNDAMENTALS

1.1. Theoretical Background

This research is based on two grounded theories, the Social-Emotional Learning (SEL) theory by Collaborative for Academic, Social, and Emotional Learning – CASEL (2005, 2020) and the Photovoice method by Wang and Burris (1997). Other theories that are included in the theoretical fundamentals of the thesis are the Johari window by Luft and Ingham (1955), the Sense of Community by McMillan and

Chavis (1986), and the SAFE theory by Durlak and colleagues (2011). The theories are summarized in Table 1. Each one of the theories complements the other theories, forming a comprehensive depiction of the theoretical background:

Table 1

Theories main concepts

Theory	Key concepts	Emphasis
Photovoice	Social-Emotional development Self-knowledge Social awareness Improvement of teaching strategy Significant relationships Feelings	Visual techniques serve as a powerful means of self-expression, offering a glimpse into the participant’s immediate environment, significant relationships, feelings, and self-perceptions. Methods such as photovoice can be effectively used for critical reflection, enabling individuals to convey their experiences and perspectives using visual narratives. Photo elicitation methods stimulates different responses, reactions and emotions than mere verbal interviews (Bromfield & Capous-Desyllas, 2017; Hall & Bowen, 2015).
Sense of Community	Individual values and needs Group cohesiveness Community Quality of interaction Emotions / feelings Social bonding	Integration and needs fulfillment – a perception according to which the needs of its members can be met by the community. Group membership - a feeling of belonging or a sense of interpersonal relatedness. Influence - a sense that one matters, or can make a difference, in a community and that the community matters to its members. Shared emotional connection – a feeling of attachment or bonding rooted in members’ shared history, place or experience (McMillan & Chavis, 1986).
SEL	Self-awareness Social awareness Relationships skills Self-management Responsible decision making	Emotional-social abilities include: (1) emotional processes such as emotional regulation and empathy; (2) interpersonal skills, e.g., social ability and understanding others' point of view; (3) cognitive regulation, including cognitive and mental flexibility. Emotional-social abilities can also include intercultural understanding, connection to others (CASEL, 2020; Jagers et al., 2019).
Johari Window	Inter-personal relationships Self-awareness Social awareness Emotions Non-judgmental feedback Reducing fear Prejudice Stereotypes	Reduces the potential for poor behaviors, misunderstanding, confusion, poor communication, ignorance, inefficiency, fear of judgement or susceptibility and expands the horizon by enhancing mutual understanding. Quadrant 1: The open area. Refers to behavior, feelings and motivation known to self and to others. Quadrant 2: The blind area. Known to others but not to self. Quadrant 3: The hidden area. Known to self but not to others. Quadrant 4: The unknown area. Known neither to self nor to others (Luft & Ingham, 1955; Shamo-Nir, 2017).
Sequenced, Active, Focused,	Sequenced Active Focused	Interventions examining whether or not each of the four practices identified by acronym SAFE is used to develop students’ skills: (S) Does the program implement a connected and coordinated set of

Theory	Key concepts	Emphasis
Explicit (SAFE)	Explicit Social and Emotional skills Relationships SEL Sense of belonging	activities designated to achieve their objectives regarding skill development?; (A) Does the program use active forms of learning to help learn new skills?; (F) Does the program have at least one component devoted to developing personal or social skills?; (E) Does the program target specific SEL skills rather than targeting skills or positive development in general terms? (Durlak et al., 2011).

Photography serves as a powerful tool for communication, learning, and self-expression. It has been linked to empathy and has been utilized in therapeutic practices (Cattaneo & Rizzolatti, 2009). In education, photography has become integral to modern textbooks and digital presentations, providing a visual means of understanding concepts (Pavlović, 2021). However, concerns have been raised about the passive consumption of visual information and its potential impact on students' speaking skills and critical thinking abilities (Husnun, 2018; Ott Walter et al., 2012).

From a pedagogical perspective, photography can facilitate reflective social interactions with students, fostering critical thinking and problem-solving skills. Proper training and integration of media education and new technologies are essential for teachers to effectively utilize photography in their teaching methods (Santos et al., 2019). Additionally, photography has the potential to reduce anxiety by providing a non-verbal and indirect means of communication, allowing individuals to capture and reflect on complex issues (Paone et al., 2018).

1.2. This research employs several essential concepts:

Interdisciplinary Curriculum Design: Jacobs (1989) describes it as using methods from multiple disciplines to explore themes and problems. Biggs (2003) stresses the need for a stable framework for effective collaboration, while Modo and Kinchin (2011) highlight the integration of strengths and common terminology across disciplines (Wilson, 2021). **Photography as Communication:** Photography is a powerful medium for visual communication, helping to conceptualize human life and culture (Fairey, 2018). It enables expressing and critically interpreting ideas and emotions (Rubinstein & Sluis, 2008; Oren, 2006). Challenges include identifying and processing images among numerous visuals (Bort-Mir et

al., 2020). **Self-Awareness:** CASEL (2020) defines self-awareness as recognizing one's feelings, thoughts, and values, and understanding their impact on behavior. It involves self-evaluation and adjusting actions according to norms (Silvia & O'Brien, 2004). **Social Awareness:** Social awareness involves empathizing with others and understanding social norms (CASEL, 2020). It helps individuals connect with others' perspectives and feelings (Boyatzis, 2008). **Self-Management:** Self-management is the ability to regulate emotions, thoughts, and behaviors, manage stress, and set goals (CASEL, 2020). It is crucial in difficult situations, fostering resilience and agency against injustice. **Relationship Skills:** Relationship skills involve creating and maintaining healthy relationships, effective communication, cooperation, and conflict resolution (CASEL, 2020). They are essential for building meaningful relationships and solving problems collectively. **Responsible Decision-Making:** This involves making ethical, safe, and socially responsible choices considering the well-being of oneself and others (CASEL, 2020). It is key for promoting collective well-being and social justice. **Sense of Classroom Community (SCC):** Rovai (2002) defines SCC as learners sharing knowledge, values, and goals. It includes feelings of acceptance and bond formation among members, enhancing student motivation and engagement (Alberth, 2022; Xudong & Li, 2020). **Group Cohesiveness:** Group cohesiveness is the shared social identity and commitment to common goals (Kreijns et al., 2014). It enhances motivation and unity within the group (Van den Bossche et al., 2008; Montessori, 2007).

1.3. Theoretical Rationale of the Social-Emotional Learning Visual-based Empowerments (SELVEs) Intervention Program

The SELVEs intervention program, developed for this research, consists of two educational programs: one using photography and the other using wording. Both aim to enhance social-emotional learning (SEL) and sense of classroom community.

Photography has become a dominant communication tool, especially with smartphone cameras, transforming how people, particularly youth, express themselves and interact socially (Stelmaszewska et al., 2006; Cooper, 2017). This visual language fosters a new communication culture, challenging

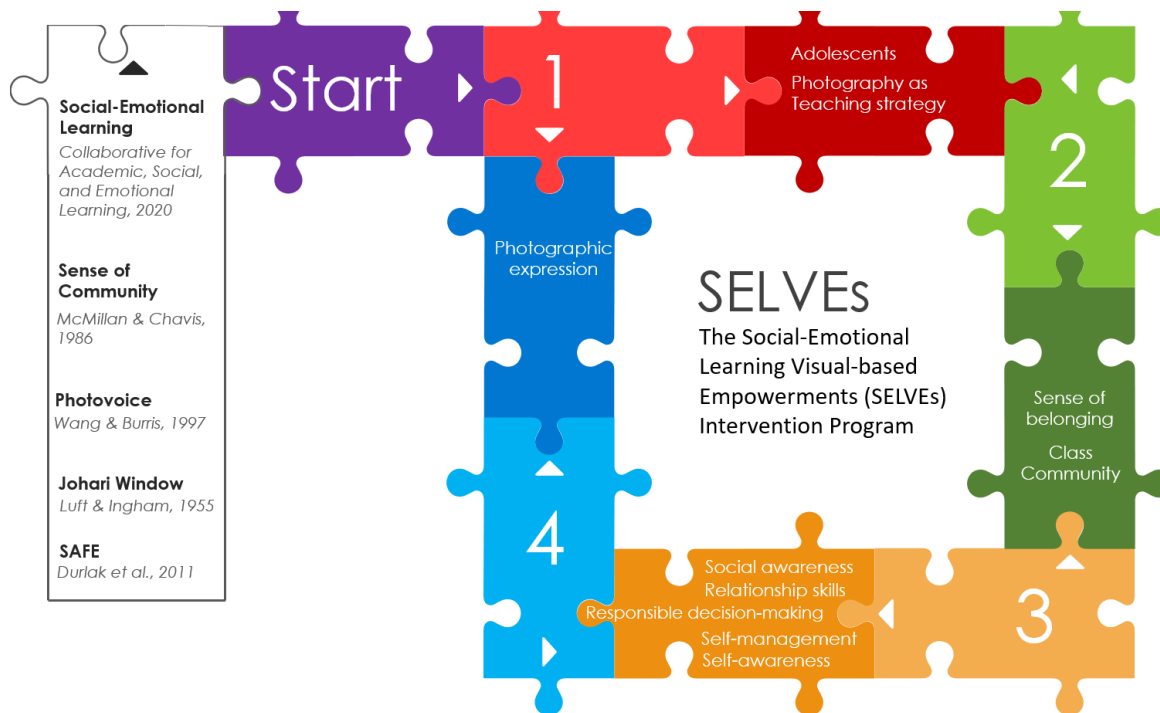
traditional text-based expressions (Scifo, 2005; Stara, 2021). Teachers should adapt to this visual language to better engage with students (Martín, 2023). Using photography in education can motivate students by provoking thoughts and emotions (Upton et al., 2023), enhancing SEL by fostering self-awareness, social awareness, relationship skills, self-management, and responsible decision-making (CASEL, 2020). This visual approach allows students to see the world through others' perspectives, promoting empathy and community belonging (Wang & Burris, 1994; Kusumaningputri & Widodo, 2018).

The SELVEs program targets 15-16-year-old students, a critical age for identity development (Erikson, 1968). Engaging in SEL activities during this period can positively influence their self and social skills, academic achievement, and overall well-being (Boey, 2023; Gill, 2023; Taylor et al., 2017). The program includes face-to-face teaching methods, pairing or grouping students, and using tools like writing boards, presentations, Padlet for displaying photos, and printed photo exhibitions. There are two workshop variants: the SEL photography-based (SEL-PB) and the SEL wording-based (SEL-WB). Both follow the SEL model but differ in their primary tools—photography versus wording.

The SEL-PB program involves basic photography techniques, student-taken photos, joint photo viewing, and group discussions, while the SEL-WB program uses similar exercises without photography. Both aim to improve SEL skills and foster a sense of classroom community. The integration of all primary components demonstrates that the study's conceptual framework depicts an interconnected process (Figure 1). This research examines the SELVES program, which is an abbreviation for "The Social-Emotional Learning Visual-based Empowerments (SELVEs) Intervention Program."

Figure 1

Conceptual framework of the program (source: created by the author)



The theoretical framework serves as the foundation for developing the interdisciplinary intervention plan, with the methodology set to be outlined in the following chapter.

CHAPTER 2. METHODOLOGY

2.1. Overview of the Research Design

The doctoral research includes the following studies (Table 2):

Table 2*Research Design and Methodology – Summary*

	Study 1 Systematic Literature Review	Study 2 Qualitative & Quantitative Exploratory Analysis	Study 3 The Effects of a Photography-based Interdisciplinary Program, Quantitative Research	Study 4 The Effects of a Photography- based Interdisciplinary Program on SEL Aspects and Sense of Classroom Community, Qualitative Research
Objectives	<ul style="list-style-type: none"> Examine the published papers from 2012 to 2023 Identify the methods, the structure and the instruments used in educational programs addressing the combination of photography and SEL among adolescents. 	Examining teachers' attitudes towards the integration of photography as an educational tool in the classroom curriculum.	Design, implement and test an interdisciplinary program targeting the levels of the five SEL aspects and participants' sense of classroom community in a wording-based and a photography-based program.	Exploring participants' reflections on an interdisciplinary program targeting the levels of the five SEL aspects and participants' sense of classroom community in a wording-based and a photography-based program.
Participants		80 teachers	150 high school students; 51 students who underwent the photography-based program; 49 students who underwent the wording-based program; 57 students in the control group that did not participate in any of the programs.	100 high school students; 51 students who underwent the photography-based program; 49 students who underwent the wording-based program;
Methodology	PRISMA guidelines based on Page et al. (2021) and the Uman (2011) procedural guidelines.	Online written survey (open-ended questions and multiple-choice questions)	Method- survey. Tool- questionnaire: Before and after program implementation (T1-T2), based on SSIS SEL (Elliott et al., 2020) and the Classroom Community Scale (CCS) (Rovai, 2002).	Method-Focus group – Group interview. Based on Morgan (1997) and Gibbs (2012). Method – Open-ended questions.
Analysis	Specific to the systematic review method	Statistical - quantitative Content analysis of themes – qualitative.	Statistical - quantitative Analysis of the questionnaires.	Focus groups, open-ended questions - Content analysis of themes and categories.

2.2. Research Tools

2.2.1. Study 1: Systematic Literature Review

This study performs a systematic literature review in education sciences, focusing on methods, structures, and instruments in programs combining photography and SEL among adolescents. Systematic reviews are essential for understanding existing research, identifying methods used, and shaping future research questions (Torres-Carrión et al., 2018). Following Uman's (2011) eight stages for systematic reviews, the PRISMA guidelines were used to filter and select relevant studies from databases like EBSCOHost, SocINDEX, Proquest-Education, ERIC, and more. Keywords included "Photography," "Photos," "Picture," "Camera," "Social-Emotional Learning," and "Social and Emotional Learning" (Page et al., 2021). This approach ensures clarity, equity, and comprehensive thematic mapping (Thorpe et al., 2006; Pittaway & Cope, 2007; Petticrew & Roberts, 2006).

2.2.2. Study 2: Teachers' Attitudes Survey

This survey explores teachers' attitudes towards using photography in classroom curricula. Utilizing both qualitative and quantitative methods, it included a validated questionnaire adapted from Asulin (2019) and the University of Kansas Center for Community Health and Development (2022). The survey covered demographics, actual use of photography, attitudes towards photographic media's value, suitability for different populations, and open-ended questions on photography as a pedagogical tool (Ganesha & Aithal, 2022).

2.2.3. Study 3: SELVEs Program Assessment

This mixed-methods study assesses the effects of a photography-based interdisciplinary program on SEL aspects and classroom community sense. Quantitative tools included the SSIS SEL Brief Scales—Student Form (SSIS SELb-S) and the Classroom Community Scale (CCS) (Elliott et al., 2020; Rovai, 2002). The SSIS SELb-S, aligned with the CASEL framework, measures SEL competencies with high

reliability and validity (Anthony et al., 2020). The CCS evaluates the sense of community in learning environments with strong reliability (Coetzee et al., 2014).

2.2.4. Study 4: Focus Groups and Content Analysis

This study used focus groups and thematic content analysis to explore participants' reflections on the SELVEs program. Focus groups encouraged interactive discussions, generating diverse perspectives (Cohen et al., 2018; Morgan, 1997). Content analysis summarized written data and identified key themes, providing a nuanced understanding of participants' experiences (Leavy, 2017; Cohen et al., 2018). Open-ended questions asked three months post-workshop further explored the program's impact on personal, social, and academic levels (Agustianingsih & Mahmudi, 2019; Züll, 2016).

2.3. The Structure of the Social-Emotional Learning Visual-based Empowerments Program (SELVEs)

The SELVEs is a 15-week class intervention (workshop) program that consists of six two-hour sessions with the experimental classes at the high school premises as a part of the educator classes, conducted over three week intervals. An overview of the SELVEs program is presented in Table 3 below.

Table 3

Intervention Program – An Overview of the SELVEs Sessions, Themes and Goals, Activities Tasks and Tools

Session number	Theme and goal	Activity	Task	Tools
1	Self-awareness (ME): Introduction and raising self-awareness as a key to positive change and as a concrete base for the following sessions (CASTEL, 2020; DeMink-Carthew et al., 2020; Durlak et al., 2011; Luft & Ingham, 1955; Mertens et al., 2022; Silvia & O'Brien, 2004).	Getting to know oneself better through the eyes of a classmate.	Interviewing classmate about oneself and expressing self-reflection. End product – students taking photographs of peer (SEL-PB) or discussing metaphor related to the peer (SEL-WB).	Both groups: Questions cards. SEL-WB: Metaphor writing. SEL-PB: Smartphone camera, Padlet application.

Session number	Theme and goal	Activity	Task	Tools
2	Relationship skills (YOU): The cultivation of effective communication and collaboration abilities that are integrated into the project from start to finish, serving as a foundation and strengthening the acquisition of other skill sets (CASTEL, 2020; Cerit & Şimşek, 2021; de Mooij et al., 2020; Durlak et al., 2011; Johnson et al., 2021; Luft & Ingham, 1955).	To make an in-depth acquaintance with a classmate with whom there is no friendship.	Interviewing classmates with the help of short questions, and trying to have a conversation about a topic which both students disagree on. End product – photographs of peer taken by students (SEL-PB) or writing positive things related to the peer (SEL-WB).	Both groups: Questions cards, sheet of conflicts. SEL-WB: Pen and paper, sticky notes. SEL-PB: Smartphone camera, Padlet application.
3	Self-management (US): The ability to regulate thoughts, emotions, and behaviors as an individual and as part of a group (CASTEL, 2020; Davis, 2018; Durlak et al., 2011; Fields et al., 2014; Jagers et al., 2019; Luft & Ingham, 1955; McMillan & Chavis, 1986; Muhammad & Gonzalez, 2016; Napolitano et al., 2021)	Researching and solving a problem as a group, by reaching an agreement about all the aspects of the process and by involving impulse-management.	Researching a problem and taking a photograph (SEL-PB) or writing a poem (poetry slam) about the problem, as a group (SEL-WB).	Both groups: Research indicator. SEL-WB: Pen and paper for the poem, presentation with "poetry slam" instructions. SEL-PB: Smartphone camera, Padlet application.
4	Social-awareness (THEM - stepping into someone else's shoes): raising social-awareness by enhancing one's capacity to comprehend the perspective of the other group and empathize with their beliefs through the lens of their own group's values and unity (CASTEL, 2020; Durlak et al., 2011; Jagers et al., 2019; Johnson et al., 2021; Luft & Ingham, 1955; McMillan & Chavis, 1986; Soland et al., 2022).	Building stronger connections within the group to achieve a sense of unity and cohesiveness while establishing relationships with other groups by considering and understanding their perspectives.	Researching a problem and planning a photograph to shoot (SEL-PB) or planning a Kahoot quiz. Before execution, groups in the class replace planned project and each group executes other group's project.	Both groups: Problems bank, pen and paper for planning. SEL-WB: Kahoot application SEL-PB: Smartphone camera, Padlet application.
5	Responsible decision making: Social dilemmas and situation analysis. Dilemma solving is a part of responsible decision making in a pro-social relational skill. Educating children in a way that is emotionally and socially wise strengthens the children's orientation to dilemmas solving which leads to moral action	Analyzing a situation of a social-moral dilemma and providing a group solution that is agreed upon by the entire group.	Analyzing a situation of a social-moral dilemma, and processing the situation by role playing or taking a joint photograph by the group until group agreement is obtained, and	Both groups: A situation in which a social dilemma is presented, pen and paper for planning. SEL-WB: Role play SEL-PB: Smartphone camera, Padlet application.

Session number	Theme and goal	Activity	Task	Tools
	(CASTEL, 2020; Durlak et al., 2011; Jagers et al., 2019; Luft & Ingham, 1955; McMillan & Chavis, 1986; Sperling, 2018)		presenting it in before the entire class.	
6	Problem solving: Collaborative problem solving has the potential to foster identity, agency, belonging, and curiosity among young people. The goal is to carry out a problem-solving task in which positive interpersonal relationships are maintained between group members, based on social and emotional competence, thus leading to productive results and a feeling of belonging to the group (Brouwer et al., 2019; CASTEL, 2020; Dindar et al., 2022; Durlak et al., 2011; Huang & Lajoie, 2023; Jagers et al., 2019; Luft & Ingham, 1955; McMillan & Chavis, 1986)	Planning a social product (SEL-WB) or setting up a social photography exhibition (SEL-PB), while thinking about solving and analyzing social problems as a group.	SEL-WB: Each group initiates, plans and presents a social product that provides a solution to a certain social problem. SEL-PB: An exhibition of the class's photographs from the 4 th and 5 th sessions is presented, in which the students need to analyze and provide solutions to the problem they encounter.	Both groups: Pen and questions sheet to analyze problems. SEL-WB: Sketch, Google forms SEL-PB: Prints of photographs the students took, sticky notes.

2.4. Researcher's Role

The researcher developed the curriculum delivered in the schools and received permission from the Ministry of Education in Israel to deliver the program.

2.4.1. Ethical Considerations

Ethical compliance was ensured through approval from Israel's Chief Scientist and adherence to ethical procedures. Participants and their parents received informed consent forms detailing the study's goals, their rights, privacy, confidentiality, and the option to withdraw at any time without consequences. The researcher had no access to school systems or prior knowledge of the students. Teachers participated anonymously through online social groups, with no identifying details recorded, respecting their privacy and confidentiality.

In the upcoming chapter, the four studies comprising this research will be elaborated upon, following the methodology outlined in this chapter.

CHAPTER 3. ORIGINAL RESEARCH CONTRIBUTIONS

3.1. Study 1. Systematic Literature Review

3.1.1. Introduction

The history of photography curriculum studies, evolving since the 1950s, underscores the significance of visual communication and photography in education (Curran & Hamlin, 1955; Greenberg, 1988; Hammerman, 1973; Orrick, 1969; Rigos & Salemmé, 1999). Visual mediums, constituting 80% of daily perceptions, have become paramount in modern communication (Smilkov & Jovanova-Mitkovska, 2022). Photography, alongside other visual arts, is integral to arts-based research and education, facilitating active learning and expression, particularly among adolescents (Buckingham, 2007; Gerodimos, 2018). Recognizing the importance of social-emotional learning (SEL) in modern education, incorporating photography as an expressive tool can foster empathy, self-awareness, and communication skills (Araúz Ledezma et al., 2021; Elksnin & Elksnin, 2003; Waajid et al., 2013; Xu et al., 2023). The present study seeks to address the gap in literature by systematically reviewing photography-based SEL interventions among adolescents, analyzing pedagogical approaches, assessment methods, and the impact on social-emotional development, aiming to enhance communication and emotional competencies in high school settings.

3.1.2. Study Aim

The aim of the current study is to examine existing educational programs among adolescents who use the photographic tool with the combination of SEL. This study systematically reviews the aims of prior studies conducted on the topic of photographic-SEL methodology, the pedagogical approach of the investigated programs, the assessments tool implemented to examine the aims, and the effects of the photography-based pedagogy on the social-emotional learning, if any.

3.1.3. Methodology

Procedure - To address the study questions, the PRISMA guidelines were used to conduct a systematic literature review, as outlined by Page and colleagues (2021). The Uman (2011) procedural guidelines were also followed to design the study and its stages. Various databases, including EBSCOHost, SocINDEX, Proquest-Education, ERIC, PsycArticles, Complementary Index, Academic Search Complete, Supplemental Index, Directory of Open Access Journals, and Elsevier were searched using specific keywords and combinations.

A total of 1,643,095 articles were found, and 259 met the search criteria for the combination of all keywords: "Photography" or "Photos" or "Picture" or "Camera"; "Social-Emotional Learning" or "Social and Emotional Learning". As the combination of all the keywords yielded numerous articles, a filtering process was initiated based on the following inclusion criteria: Academic and peer-reviewed studies; Studies published in English; Studies published between 2012 and 2023; Full text access.

3.1.4. Findings

Among 204 excluded records, reasons included studies not utilizing photography (15), unrelated to SEL (4), employing only video-based pedagogy (2), focusing on kindergarten and elementary school children (15), and adults (7). Six non-pedagogy studies and three duplicates were also excluded, leaving three studies for review (Chisholm, & Whitmore, 2018; Felt, Vartabedian, Literat, & Mehta, 2012; Howley, Dyson, Baek, Fowler, & Shen, 2021).

The researches aimed to explore the transformative potential of digital images in classroom assessment, emphasizing their role in illustrating social-emotional learning (SEL) and student engagement. Additionally, they sought to promote SEL and meaningful physical education by empowering students through diverse learning experiences and to delineate a methodological and pedagogical framework for participatory cultures in formal educational settings. Pedagogical approaches included Visual Learning Analysis (VLA), Student Voice Pedagogy (SVP), and Explore Locally, Excel

Digitally (ELED), each employing methods such as photo inquiry, participatory action research, and digital projects. Assessment tools encompassed observation, digital photograph analyses, focus groups, pre- and post-intervention surveys, ethnographic field notes, and participant-taken photographs.

The findings underscored the multifaceted impact of photography-based pedagogy on SEL, elucidating its ability to facilitate educators' understanding of students' learning processes and interactions within the classroom in addition to a comprehensive understanding of the students' non-linguistic modes of communication. Moreover, photography served as a platform for students to evaluate class content, make informed social decisions, and practice responsible decision-making. Additionally, tasks involving photography fostered initiated relevant discussions, particularly beneficial for students with communication difficulties, enabling them to express themselves effectively to their peers. These findings highlight the potential of photography as a powerful pedagogical tool for enhancing SEL and fostering inclusive learning environments.

3.1.5. Discussion

The current study employed a systematic literature review to analyze photography-based pedagogies integrating social and emotional learning (SEL) among adolescents. While all three relevant studies emphasized cooperative learning and group processing, Felt et al. (2012) explicitly referenced all five SEL aspects, although they did not directly link photography with SEL outcomes.

Only one study by Chisholm and Whitmore (2018) relied solely on photography as a primary tool, but all studies noted photography's contribution to classroom dynamics and individual student engagement. As adolescents increasingly communicate through social networks, photography emerges as a valuable tool for fostering reflective social interactions between educators and students, enhancing SEL skills crucial for well-being. Further research in this area is essential to fully understand the impact of photography-based pedagogy on adolescent development and to equip educators with effective tools to support their students' SEL growth.

3.1.6. Conclusions

The systematic literature review reveals the following main conclusions: Incorporating photo-based pedagogy in the classroom has unequivocal benefits for both individual students and the group as a whole; Teachers can leverage photography as an informal tool to enhance communication and gain a better understanding of their students' interests, utilizing the newfound knowledge to enrich classroom experiences; The use of pictures in the classroom promotes personal and social awareness, cultivates responsible decision-making skills, and improves self-management in social interactions. This, in turn, enhances communication and relationship skills, ultimately improving social and emotional learning (SEL) outcomes.

3.2. Study 2. Exploratory Analysis of Teachers' Perceptions Regarding the Usage of Photography in Their Practice

3.2.1. Introduction

Cameras, increasingly accessible to non-professionals, serve diverse functions from enhancing security in kindergartens (Lehmuscallyo, 2012) to supporting educational endeavors such as providing children with cameras for educational purposes (Näsänen et al., 2009). Moran and Tegano (2005) underscore photography's role as a language of teacher inquiry, facilitating communication and generating new insights. Visual tools, including photography, aid educators in recognizing linguistic and artistic codes used by students to convey their understanding of literary texts (Moran & Tegano, 2005; Šrot, 2019). Additionally, photography serves as a reflection tool for teachers to gauge student comprehension and participation, enhancing science and literacy learning (Cappello & Lafferty, 2015) while diversifying information processing methods (Marzano et al., 2001).

The 'Z generation' adolescents, shaped by the information revolution, communicate extensively through photos, utilizing social media and MMS messages as their primary ICT (Cooper, 2017; Haddon, 2020; Scifo, 2005; Stelmaszewska et al., 2006). Incorporating photography into the curriculum not only

facilitates text learning and understanding (Zenkov & Harmon, 2009; Zenkov et al., 2012) but also enables teachers to grasp students' social-emotional learning and instructional needs (Chisholm & Whitmore, 2018). Given the profound impact of visualization within ICT on adolescent lifestyle and cognition (Glusac et al., 2015), educators must understand this socio-cultural phenomenon to effectively engage and educate students in a rapidly evolving digital landscape.

3.2.2. Methodology

Aim - The study aimed to investigate teachers' perspectives on photography's societal roles, its integration within various populations and organizations, and its acceptance as a pedagogical tool in the curriculum. It utilized a mixed-method approach, incorporating both quantitative and qualitative methods to address these research questions effectively.

Hypotheses – quantitative approach - Teachers generally acknowledge higher student engagement with photography compared to their own, expressing positive attitudes towards its societal benefits, especially among older students and within organizations serving mature populations. Their views on the utility of photographic media are influenced by background characteristics, such as whether they work in special education schools, as well as the frequency of photography use among both teachers and students. These factors shape their perceptions of photography's applicability among specific populations and within various organizational contexts.

Hypothesis – qualitative approach

The teachers will exhibit positive attitudes towards the use of photography mainly in education classes with classroom educators.

3.2.3. Participants

The study, conducted during the academic year from January to June 2023, utilized snowball sampling to maximize teacher participation. This method, leveraging social media, involves recruiting initial participants who then refer others, creating an expanding pool of respondents. Snowball sampling

is effective for gaining access to diverse participants and dissolving power imbalances between researchers and participants. It relies on strong interpersonal relationships and known contacts, with participants acting as gatekeepers to others. The sample included 81 teachers (9 males, 72 females), aged 29-70 ($M = 46.98$, $SD = 8.60$), with teaching experience ranging from 1 to 48 years ($M = 16.33$, $SD = 10.92$). Teachers answered background questions about their field of study, teaching specialization, school type, student age group, and photography training.

3.2.4. Study Tools

The study investigates educators' opinions on photography as a pedagogical tool and its integration into teaching methods using a mixed-methods survey. The survey, incorporating quantitative and qualitative questions, includes a demographic questionnaire and four open-ended questions to capture comprehensive views. Questions were sourced from Asulin (2019) on technology use in classrooms and the Center for Community Health and Development (2022) for photography preferences. The study features five components: demographic data, photography use frequency, teachers' opinions on photography, Likert scale-based attitudes towards photography's value, and open-ended questions. An Exploratory Factor Analysis (EFA) validated the use of photography, revealing high internal consistency in teachers' and students' responses. The Likert scale assessed teachers' attitudes towards photography's societal value and use among specific populations and organizations. Open-ended questions explored teachers' willingness to incorporate photography into lessons and its perceived impact.

3.2.5. Procedure

To reach a broader group of teachers, the survey was shared in educator communities on WhatsApp and Facebook, accompanied by a request to further share it, creating a snowball effect. Prepared using Google Forms, the survey was distributed via an anonymous link, ensuring respondents did not need to provide identifying details. The data was collected into a CSV file and processed by SPSS software (version 29).

3.2.6. Study 2 Quantitative Findings

This section presents the results for each of the seven study hypotheses. According to the first hypothesis, teachers indicated that students use photography more frequently in everyday life than teachers do. This was supported by a paired sample t-test showing students had a significantly higher mean frequency of photography use ($M = 1.76$, $SD = 0.93$) compared to teachers ($M = 1.40$, $SD = 0.68$), $t(80) = 3.32$, $p < .001$. The second hypothesis posited that teachers would have a positive attitude towards the societal value of photographic media. Descriptive statistics supported this, with teachers showing medium-high positive attitudes across all 13 questionnaire items, especially valuing the immediate reward of photography and its accessibility.

The third hypothesis suggested teachers prefer using photography with older students. A one-way repeated measures ANOVA confirmed this, indicating more positive attitudes towards using photography with adolescents/youth ($M = 2.72$, $SD = 0.45$) compared to elementary ($M = 2.31$, $SD = 0.78$) and kindergarten children ($M = 1.67$, $SD = 0.87$), $F(2,160) = 85.03$, $p < .001$, $\eta^2 = .52$. The fourth hypothesis, that teachers favor using photography in high schools over kindergartens, was also supported, with attitudes being more positive towards high schools ($M = 2.56$, $SD = 0.59$). Hierarchical regression analyses for the fifth and sixth hypotheses showed that being an educator and frequent use of photography contributed to positive attitudes towards photography's value in society and among certain populations. Lastly, the seventh hypothesis indicated that positive attitudes towards photographic media significantly contributed to positive attitudes towards using photography in high schools.

3.2.7. Study 2 Qualitative Findings

In this study, content analysis was used to derive thematic categories from teachers' responses regarding the incorporation of photography into their lessons. Teachers expressed positive views on using photography to enhance creativity, learning, and engagement, particularly at the academic level. The majority of teachers surveyed supported incorporating photography into their lessons and expressed

interest in receiving training on its use. However, some teachers raised concerns about potential drawbacks, such as privacy issues, misuse of smartphones, and logistical challenges. Despite these concerns, many teachers believed that the benefits of using photography outweighed the disadvantages, emphasizing its role in promoting meaningful learning, personal communication, and social-emotional skills.

3.2.8. Discussion and Conclusions

The study used a mixed-methods approach to examine teachers' opinions on the role of photography in education. Quantitative findings revealed that teachers believe students use photography more frequently and see it as an effective engagement tool, although traditional methods remain predominant. A communication gap exists, with students increasingly using visual language. Teachers generally view photography positively, especially for adolescents, but have reservations about its use with younger children and in security contexts due to privacy concerns.

Qualitative findings highlighted that teachers see photography as a valuable pedagogical tool, enhancing creativity and authentic communication among students. Special education teachers particularly valued photography for improving self-expression and social skills. However, concerns were raised about privacy breaches, technical issues, and the need for training. Some teachers also noted that overemphasis on photography could distract from other essential academic content.

In conclusion, the study underscores the need for integrating photography into curricula, training teachers, and addressing privacy and ethical concerns. Photography can bridge the communication gap between teachers and students, enhance learning experiences, and benefit special education. Appropriate measures must be taken to mitigate potential drawbacks, ensuring responsible use in educational settings. The mixed-methods approach provides a comprehensive view of the research problem, revealing that teachers recognize a new visual language among students and mostly support using photography as a pedagogical tool. Findings suggest early training in visual technologies can foster ethical consciousness

and stronger student-teacher relationships, particularly in special education, aligning education with 21st-century demands (Carter et al., 2014).

3.3. Study 3. The Multidimensional Effects of a Wording and Photography-Based Interdisciplinary Program on High School Students

3.3.1. Introduction

The first chapter of the systematic literature review highlighted the limited research on using photography as a pedagogical tool for enhancing social-emotional learning (SEL) in adolescents. This study aimed to analyze whether and how participants in a training program using photography improved their SEL skills compared to those in a similar program without photography. Additionally, it examined the sense of belonging to the class. Quantitative measures of SEL values and class belonging provided crucial data to explore the relationship between theoretical concepts and research variables.

3.3.2. Methodology

The aims of this study were to: 1) investigate the effects of an intervention program incorporating photography or articulation on enhancing social and emotional learning (SEL) and classroom community among high school students; 2) compare the impact of photography versus text-based pedagogical tools on SEL levels in youth aged 15-16; and 3) assess how improvements in SEL influence the sense of community in the classroom.

The hypotheses of this study were: 1) High school students who will undergo the two types of SEL intervention programs (SEL-Photograph-based group [SEL-PB], SEL-Wording-based group [SEL-WB]) will exhibit a greater improvement in their level of SEL and sense of classroom community aspects compared to high school students who will be assigned to the control group. Moreover, high school students who will be assigned to the SEL-PB will exhibit a greater improvement in their level of SEL and sense of classroom community aspects compared to the SEL-WB group; 2) The improvement in SEL

aspects and the improvement in sense of classroom community will significantly positively correlate; 3) The demographic characteristics of the high school students as well as their grouping assignment will explain their level of improvement in the SEL aspects and the sense of community in the classroom.

3.3.3. Participants

The study, conducted from January to June 2023, involved 157 10th-grade general education students (68 males and 89 females, aged 15-16) from a high school in Israel. Participants were divided into three groups: two experimental groups (SEL-WB with 49 students and SEL-PB with 51 students) and a control group (57 students). The SEL-WB group used conversation, writing, and reading text, while the SEL-PB group used photography as their primary pedagogical tool. The control group continued with their regular educational activities. Background characteristics such as gender, major subjects, parents' education and birthplace, and frequency of taking and sharing photographs were similar across all groups. The workshops spanned 15 weeks with regular meetings scheduled as part of the high school's social curriculum. The researcher, had no prior acquaintance with the study participants.

3.3.4. Research Tools

Two questionnaires were utilized to assess different aspects of social-emotional learning (SEL) and classroom community sense among high school students. The first tool, the Classroom Community Scale (CCS), consisted of 20 items translated into Hebrew and administered on a Likert scale ranging from strongly disagree to strongly agree. Factor analysis revealed five orthogonal factors, including membership and emotional safety, fulfillment of needs, influence and trust, and shared emotional connection. However, due to the fifth factor containing only one item, an additional factor analysis was conducted, resulting in four factors with satisfactory internal consistency. The second tool, the SSIS SEL Brief Scales-Student Form (SSIS SELb-S), comprised 20 items divided into five domains: self-awareness, self-management, social-awareness, relationship skills, and responsible decision-making. Similar to the CCS, factor analysis revealed five orthogonal factors, but due to some factors containing only two items,

an additional analysis was conducted resulting in four factors with good internal consistency. Inferential statistical methods including Pearson correlations, ANOVA, MANOVA, and multiple regression were used to analyze correlations and significant differences among variables, including students' social-emotional learning levels and sense of belonging to the class community.

3.3.5. Findings

The study conducted non-parametric and parametric analyses to assess differences in students' scores on the CCS and SSIS SELb-S questionnaires. Results revealed significant findings across both analyses, with consistent conclusions. At the outset, no significant differences were observed between study groups in terms of CCS and SSIS SELb-S scores after filling up the first questionnaire (T1). However, significant improvements were noted in various aspects, particularly in SEL, across both participating groups from T1 to T2 (T2=the second time the participants filled in the questionnaires). Notably, students in the SEL-PB group exhibited the highest improvement rates in both classroom community aspects and SEL aspects compared to the SEL-WB and control groups.

Further analysis delved into the correlations between SEL and classroom community aspects. Positive correlations were found, particularly between improvements in membership and emotional safety in the classroom community and social awareness in SEL aspects. Additionally, multiple regression analyses were conducted to explore the contribution of students' background characteristics and group assignment to their improvement rates. Results indicated that being assigned to the SEL-PB group significantly contributed to improvements in membership and emotional safety, social awareness, and responsible decision-making aspects of SEL, compared to the SEL-WB and control groups. Moreover, students whose parents were not born in Israel showed higher improvements in certain SEL aspects, suggesting potential cultural influences. These findings underscore the effectiveness of SEL interventions, particularly the SEL-PB approach, in enhancing both classroom community dynamics and SEL competencies among high school students.

Table 4

Multiple Regression Analysis of the Students' Improvement Rate on the CCS and SSIS SELb-S Questionnaire Measures by Their Background Characteristics and Their Grouping Assignment¹

Explanatory variables	B	SE.B	β	R²	ΔR^2
Membership and emotional safety					
SEL-PB ¹	1.13	.13	.58***	.339***	---
Social awareness					
SEL-PB ¹	.77	.11	.55***	.213***	---
SEL-WB ²	.30	.11	.21**	.247***	.034**
Mother's birthplace ³	-.32	.13	-.17*	.278***	.030*
Frequency of taking pictures with camera/smartphone	-.10	.04	-.16*	.302***	.025*
Responsible decision-making					
SEL-PB ¹	.66	.09	.56***	.210***	---
SEL-WB ²	.26	.09	.22**	.247***	.036**
Self-awareness					
Control ⁴	-.78	.10	-.50***	.260***	---
Gender ⁵	-.26	.10	-.17*	.285***	.025*
Father's birthplace ³	-.32	.14	-.15*	.308***	.023*
Self-management					
Control ⁴	-.66	.11	-.42***	.176***	---
Mother's birthplace ³	-.46	.15	-.21***	.212***	.036**
Frequency of sharing pictures on social networks	.10	.05	.15*	.235***	.023*

* $p < .05$, ** $p < .01$, *** $p < .001$; ¹The regression analyses were conducted only with regard to the study measures in which the interaction (2x2) of Group and Time was significant and significant improvements were found among one or both intervention groups; ¹SEL-PB: 0 = No, 1 = Yes; ²SEL-WB: 0 = No, 1 = Yes; ³Mother's or father's birthplace: 0 = not Israel, 1 = Israel; ⁴Control: 0 = No, 1 = Yes; ⁵Gender: 0 = Boy, 1 = Girl.

3.3.6. Discussion

Study 3 aimed to examine the effects of a photography-based intervention on social and emotional learning (SEL) and sense of community among high school students. It compared the impact of a photography-based SEL program (SEL-PB) with a wording-based SEL program (SEL-WB) and a control group. The hypothesis was that both intervention groups would show greater improvements in SEL and classroom community, with the SEL-PB group experiencing the most significant gains. The results confirmed this, showing that students in both intervention groups improved more than the control group, with the SEL-PB group displaying the most substantial progress in social awareness and responsible decision-making, which contributed to a stronger sense of classroom community.

The study's findings underscore the potential of photography as a powerful pedagogical tool in enhancing SEL. The SEL-PB group, which engaged in activities that involved taking and sharing

photographs, exhibited significant improvements in social dynamics and a sense of belonging. This can be attributed to the less filtered and more authentic expression facilitated by photography compared to text-based activities. Furthermore, demographic factors influenced the outcomes, with frequent photo-sharers and students from immigrant backgrounds showing notable gains in self-management and social awareness, respectively. These results suggest that incorporating visual media into SEL programs can effectively address the unique developmental needs of adolescents, promoting deeper social connections and emotional understanding within the classroom community.

3.3.7. Conclusions

This study concludes that the intervention program significantly enhanced Social and Emotional Learning (SEL) across all factors for both photography-based and wording-based groups. Specifically, using photography in the curriculum notably improved social awareness, responsible decision-making, and fostered a stronger sense of community, confidence, and emotional well-being compared to the wording-based group. Additionally, a positive correlation was found between improved social awareness and responsible decision-making and the sense of community in the classroom. Frequent photo-sharing participants showed greater self-management improvements, while infrequent sharers improved more in social awareness. Participants with non-native born parents also demonstrated significant gains in self-awareness, social awareness, and self-management. Overall, incorporating photography into educational programs can significantly enhance students' social and emotional development.

3.4. Study 4. Exploring the Individual Perceptions of the Implementation of the SELVES program

3.4.1. Introduction

This study aims to analyze both the feedback from participants and the work process of students in the SELVES workshop, using their written responses to assigned tasks. The SELVES program,

designed to integrate diverse social and emotional learning (SEL) skills into the education system, leverages photography as an innovative pedagogical tool. SEL skills have been shown to benefit students' well-being and learning over the past three decades (Araúz Ledezma et al., 2021; Haymovitz et al., 2018; Xu et al., 2023). With the advent of smartphone technology, students now communicate primarily through visuals, altering their social interactions and self-awareness (Cooper, 2017; Haddon, 2020; Reilly, 2012). The qualitative research in this study included students from two experimental groups—one using photography (SEL-PB) and one using wording (SEL-WB)—to gain deeper insights into the implementation and student perceptions.

3.4.2. Methodology

The main goal of this qualitative study is to examine the perspectives of the students participating in the program on the workshop and the implementation of its tools. Furthermore, the study aims to evaluate their opinions and stances concerning the impact of the workshop on their individual's experiences, beliefs, values, and emotions, their learning methodologies and the social dynamics among the group members on a socio-emotional level.

There are two hypotheses: 1) The students are expected to convey affirmative views regarding the intervention program (workshop) they participated in, which merges social and emotional learning (SEL) skills with the process they underwent and the tools they employed; 2) Both groups are likely to exhibit positive attitudes towards the integration of photography into the curriculum. Nevertheless, the group that utilized photography may provide testimony about the intricate nature of the photographic tool, based on their experience of face-to-face exposure during the process.

3.4.3. Participants and Sampling

The research, conducted from January to June 2023 at a high school in Israel, involved 100 10th-grade students (ages 15 to 16). 49 students (18 males and 31 females) participated in the SEL Wording-Based (SEL-WB) group, while 51 students (25 males and 26 females) were in the SEL Photography-

Based (SEL-PB) group. Each group was divided into two classes for convenience. The SEL-WB group used conversation, writing, and reading as primary pedagogical tools, while the SEL-PB group used photography. Convenience sampling, a method that selects participants based on accessibility, was used for its efficiency and practicality (Leavy, 2017; Obilor, 2023; Cohen et al., 2018). Focus groups, formed with six students from each class (24 students total), were selected using purposive sampling to ensure valuable insights and gender representation (Abrams, 2010; Patton, 2002). A follow-up meeting three months later assessed the program's long-term impact, with 44 students from the SEL-WB group and 38 from the SEL-PB group completing a questionnaire.

3.4.4. Study Tools

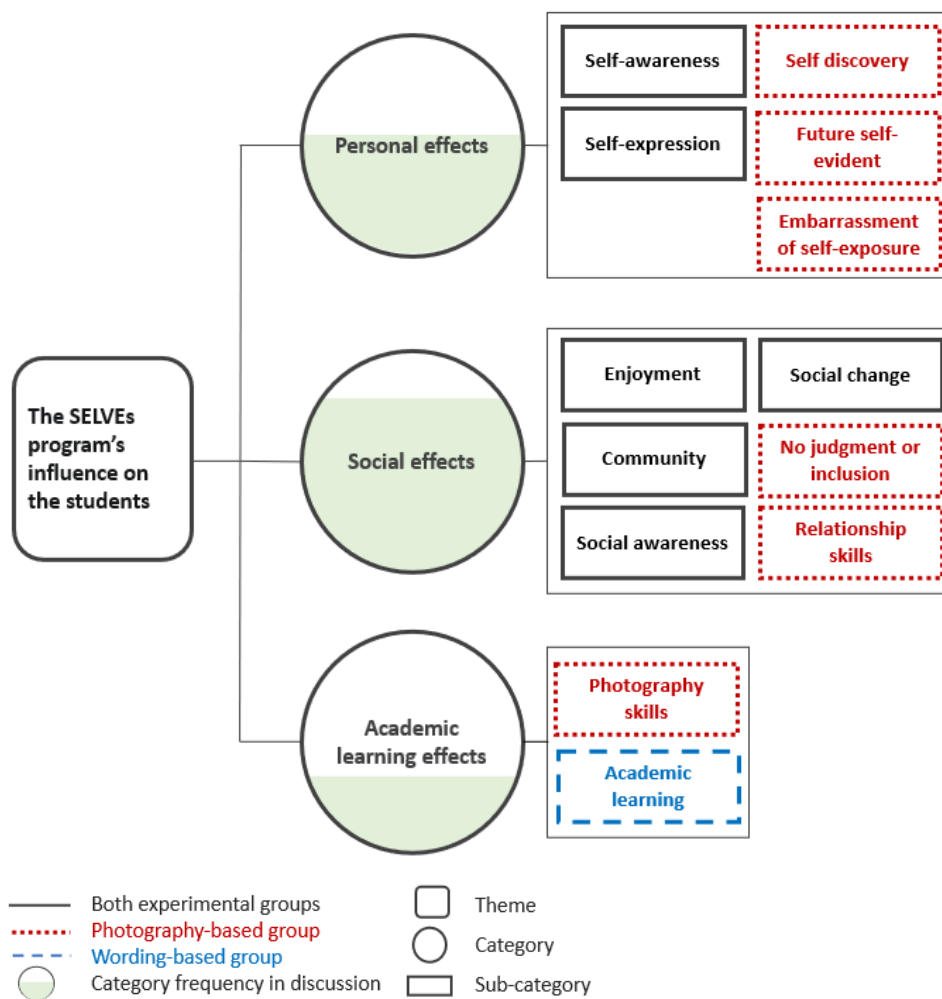
This qualitative study employed focus groups and open-ended questions. Focus groups, a technique that relies on group interaction to generate collective views, allowed participants to express diverse perspectives confidentially (Cohen et al., 2018; Sim & Waterfield, 2019; Morgan, 1997). In this study, 24 participants shared their experiences anonymously, providing insights into various attitudes, values, and beliefs. Open-ended questions, which have multiple valid answers, encouraged respondents to use their creativity and communication skills, yielding more dependable and valid information (Agustianingsih & Mahmudi, 2019; Porst, 2011). During a follow-up meeting, students answered four open-ended questions about their workshop experience, assessing its impact on personal, social, and academic levels. These tools facilitated an in-depth understanding of the workshop's effects.

3.4.5. Data Analysis

The primary goal of research and data analysis is to foster comprehension and interpretation, not just generate data (Winkle-Wagner et al., 2019). In this study, content analysis was used to derive thematic categories from textual segments. This involved organizing data into analytical sequences and conducting a methodical content analysis of focus group interviews and open-ended question responses. Following Miles et al. (2014), codes and themes were assigned, sorted, and sifted to identify patterns, relationships,

and differences (Figure 2). The study adhered to qualitative research quality standards by ensuring transparency, using rich descriptions and direct quotations, and involving expert reviews and teacher collaboration. Multiple research tools were deployed to ensure triangulation, enhancing the study's reliability and validity (Shkedi, 2011).

Figure 2
The SELVEs Program's Influence on the Students



3.4.6. Findings

The qualitative analysis of students' perceptions within the SELVEs program revealed significant personal, social, and academic impacts. Both the photography-based and wording-based groups reported enhanced self-awareness and self-expression, with the photography group emphasizing self-discovery through photography. Both groups experienced strengthened community bonds and improved relationship

skills, though the photography group uniquely addressed judgment and inclusion issues. Concerns about self-exposure were specific to the photography group, reflecting their unique experience with visual media. While academic impacts received less attention, the photography group highlighted personal skill development, underscoring the workshop's broader influence on personal growth. Both groups recognized the benefits of tailored learning approaches and collaborative work, highlighting the importance of individualized educational strategies.

The study also examined the effects of responsible decision-making within the SELVEs program and the resultant social changes and student contributions. Both groups emphasized the community-building aspect of joint decision-making and a sense of belonging, with the wording-based group highlighting the seriousness of decision-making. Academic learning effects were noted by both groups, particularly the role of teachers and enriched classroom discussions. Social changes included improved belonging and interpersonal skills, with the photography group focusing on strengthened relationships and extracurricular engagements, and the wording group emphasizing enriched conversations and a secure environment for expressing opinions. Both groups expressed a desire for increased participation in class activities, with the photography group emphasizing integration and the wording group on fostering respect. Overall, positive attitudes towards program interventions were evident, with nuanced differences reflecting each group's unique experiences.

3.4.7. Discussion

The intervention program significantly impacted students' personal, social, and academic spheres. The photography-based group showed greater self-awareness and social engagement, using photography as a tool for self-expression and connection. This visual medium facilitated deeper introspection, empathy, and inclusion. Three months post-intervention, both groups improved in self-awareness and social dynamics, with the photography group experiencing a stronger sense of belonging and satisfaction in social relationships. The program enhanced self-management skills, especially in regulating smartphone use and engaging respectfully with others. Relationship skills, including active listening and conflict

resolution, were honed through collaborative activities, fostering a supportive classroom environment. Both groups displayed increased self-awareness, social awareness, and responsible decision-making, contributing to overall well-being and academic engagement.

Pedagogical tools, including photography, conflict resolution pages, and group activities, were crucial in fostering student engagement and connection. The photography-based group embraced photography as a powerful learning tool, while the wording-based group initially expressed skepticism but later recognized its benefits, despite privacy concerns. The transformation in perception among the photography group highlights photography's potential to facilitate interpersonal connections and broaden perspectives. Problem-solving skills were likely developed through various activities and discussions, contributing to social and emotional growth. Overall, the program enriched students' academic experiences and nurtured their interpersonal skills and emotional intelligence, emphasizing the importance of integrating social-emotional learning into educational interventions for holistic student development.

3.4.8. Conclusions

In conclusion, this study sheds light on the perspectives of students who participated in a workshop, particularly regarding the use of photography as a primary tool. The findings underscore the significant impact of photographic tools on the emotional domain, particularly for the photo-based group, suggesting a deepened sense of self-awareness. Moreover, the photography-based group reported greater satisfaction with their social relationships, indicating improved personal well-being and social awareness. Over time, both groups showed convergence in social-emotional learning factors, especially in responsible decision-making. Despite positive attitudes towards incorporating photography into the curriculum, concerns about smartphone use and privacy violations were raised, particularly by the wording-based group. Nevertheless, both groups highlighted the benefits of collaborative learning in small groups or pairs, emphasizing deeper connections and increased attentiveness to peers. Overall, these findings

underscore the potential of innovative pedagogical tools to enhance social-emotional learning and enrich students' educational experiences.

3.5. Triangulation of the Qualitative and Quantitative Data of the Research

This doctoral thesis employs triangulation to comprehensively address the research questions across multiple studies. The systematic literature review (Study 1) identified cooperative learning and group processing as focal points, showcasing photography's positive impact on both students and teachers in enhancing self and social awareness. Teachers' survey (Study 2) further elucidated the potential of photography as a pedagogical tool, highlighting its facilitation of authentic student expression and meaningful learning experiences.

Incorporating both quantitative and qualitative methodologies in Studies 3 and 4, the research explored the impact of an educational program incorporating social-emotional learning (SEL) skills and pedagogical tools, particularly photography. Triangulating data from structured questionnaires, focus groups, and open-ended questions, the studies revealed significant improvements in SEL factors, with the photography-based group exhibiting enhanced self-awareness, relationship skills, and responsible decision-making. Despite initial differences, the perceptions of both groups converged over time, indicating the workshop's enduring impact on social, personal, and academic dimensions. Additionally, Study 4 examined students' opinions on implementing photography in classroom settings, underscoring its potential as a transformative educational tool.

Through triangulation, this research offers a nuanced understanding of the benefits and challenges associated with integrating photography into education. By combining diverse perspectives and methodologies, triangulation enhances the reliability and depth of research findings, enabling a more comprehensive analysis of complex phenomena.

CHAPTER 4: GENERAL CONCLUSIONS AND IMPLICATIONS

4.1. General conclusions of the doctoral research and Recommendations

The overarching aim of this research was to evaluate the impact of an intervention program, utilizing photography or wording, on enhancing social and emotional learning (SEL) factors and fostering a sense of community among high school students. Through a series of four studies, ranging from systematic literature review to teacher perspectives and student interventions, the research sought to provide a comprehensive understanding of the effectiveness of incorporating photography into educational settings. The findings underscored the significant benefits of integrating photography as a pedagogical tool, particularly in promoting personal and social awareness, responsible decision-making, and fostering a sense of belonging within the classroom community.

From the perspective of teachers, there was a general openness towards accepting photography as a valuable educational tool, especially among younger, professional, and experienced educators. However, concerns regarding privacy violations and inadequate teacher training emerged as potential challenges in implementation. Nevertheless, the overall positive reception towards photography's educational potential highlights its promise in enriching classroom experiences and enhancing teacher-student relationships. Regarding the intervention program's effects on students, the research revealed notable improvements in SEL factors, particularly in the photography-based group, which demonstrated enhanced self and social awareness, responsible decision-making, and interpersonal relationship skills. Furthermore, the program facilitated deeper connections among students and contributed to greater satisfaction with social relationships, ultimately fostering better personal well-being and resilience. Overall, the findings suggest that incorporating photography into educational curricula can have a transformative impact on students' socio-emotional development and classroom dynamics.

4.2. Theoretical implications

The systematic literature review (Study 1) highlights the scarcity of research incorporating photography as a primary tool to enhance social and emotional learning (SEL) factors, with only a few

articles identified, including one study focusing solely on photography's role in improving SEL (Chisholm & Whitmore, 2018). This research, involving a substantial sample size of 100 students, contributes significantly to the literature by exploring the effects of using photography as the primary tool in an intervention program on all five SEL factors. Additionally, the review underscores the need for investigating teachers' perspectives on integrating photography into educational settings, a gap addressed by the current research. Study 2 further emphasizes the importance of incorporating photography into the curriculum to better understand students' social-emotional learning and enhance teacher-student relationships, despite challenges such as teachers' lack of knowledge and information regarding the implementation of photography as an educational tool. Finally, Studies 3 and 4 build upon theories from education, psychology, and photography to explore the integration of photography-based pedagogy, SEL, and sense of community among adolescents.

4.3. Methodological implications

The theoretical implications of this research have influenced the methodological implications in the research area of photography-based pedagogy, which is integrated with social-emotional learning among adolescents. The research included a large number of participants (157) and intervention program attendees (100) and employs a combination of mixed research methods. This facilitated an innovative methodology that is broader and more in-depth than previous studies, which had fewer participants and were only qualitative. Qualitative questionnaires based on photography-based pedagogy were also developed for the focus groups and follow-up meetings. These questionnaires can be used in similar programs and other contexts.

4.4. Practical Implications of the doctoral research studies

The findings from the four studies in this research significantly advance our understanding of utilizing photography as a pedagogical tool to enhance social and emotional learning (SEL) factors and foster a sense of community in the classroom. The research underscores the importance of practical photography pedagogy among adolescents to improve their personal, social, and academic well-being.

The literature review reaffirms the widespread use of photography among adolescents, emphasizing the need for educators to acknowledge and integrate visual language into the education system. Study 2 highlights the necessity of teaching students how to ethically and effectively use photography, addressing concerns raised by teachers regarding its misuse. Providing students with autonomy in utilizing photography can facilitate deeper engagement and foster a sense of responsibility. Furthermore, the research emphasizes the importance of training programs for teachers to confidently integrate photography into classroom activities, ensuring its proper and ethical use. The program developed in this research holds promise for implementation in diverse cultural contexts, leveraging photography as a universal language to promote cross-cultural understanding and personal growth. Overall, this research lays a solid foundation for developing effective training programs and educational interventions centered around the use of photography as a pedagogical tool.

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