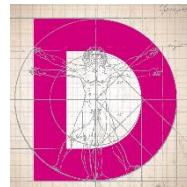


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## EDUCACIÓN INCLUSIVA, UN DESAFÍO A ASUMIR EN EL SISTEMA EDUCATIVO CAMERUNÉS

### INCLUSIVE EDUCATION, A CHALLENGE TO BE TAKEN UP IN THE CAMEROONIAN EDUCATION SYSTEM

Esthelle Viviane EBELOTEN NITEK

Universidad Internacional Iberoamericana, México

Orcid: <https://orcid.org/0009-0000-8920-6942>

Rocío NAVA BAUTISTA

Universidad Internacional Iberoamericana, México

Orcid: <https://orcid.org/0000-0002-7925-5414>

#### Resumen

El objetivo de este estudio es desvelar o resaltar los desafíos que enfrenta el sistema educativo camerunés con respecto a la educación inclusiva desde perspectivas pedagógicas, en el aprendizaje cooperativo, la calidad de la educación, la ética social y el desarrollo escuela en nuestras diferentes regiones.

Basada en el principio de igualdad de oportunidades y en los valores humanos de equidad y respeto por las diferencias, la educación inclusiva se centra en «cómo transformar los sistemas educativos y mejorar la calidad de la educación en todos los niveles y en todos los contextos, a fin de dar cabida a la diversidad de los educandos y promover el éxito escolar» (UNESCO, 2008). Se prescribe como un mandato internacional sea cual sea el contexto, e implica un cambio de paradigma en el que las condiciones de éxito dependen de la capacidad de la escuela para adaptarse a la diversidad del público al que sirve (Dyson et al., 1999, Plaisance et al., 2007). La situación actual nos lleva a cuestionar su apropiación y a reflexionar sobre los mecanismos definidos y puestos en marcha para acoger y apoyar a los alumnos con discapacidad en su escolarización en Camerún.

Esta investigación tiene como objetivo resaltar los desafíos (de recursos, de actitudes, creencias, percepciones y educativos...) que enfrenta el sistema educativo camerunés en el contexto de la escuela inclusiva. Este estudio es exploratorio y utiliza datos cuantitativos y cualitativos (mixtos). El enfoque analítico es constructivista. Se agrupan

en torno a un enfoque pedagógico de la educación y utilizan varios métodos de recopilación de datos, todos dentro de un paradigma cualitativo y cuantitativo.

**Palabras clave:** educación inclusiva; desafío; asumir; camerunés; sistema educativo

### **Abstract**

The objective of this study is to unveil or highlight the challenges faced by the Cameroonian educational system with respect to inclusive education from pedagogical perspectives, in cooperative learning, quality of education, social ethics and school development in our different regions.

Based on the principle of equal opportunity and the human values of equity and respect for differences, inclusive education focuses on 'how to transform education systems and improve the quality of education at all levels and in all contexts in order to accommodate the diversity of learners and promote learning achievement' (UNESCO, 2008). It is prescribed as an international mandate whatever the context, and implies a paradigm shift in which the conditions for success depend on the school's ability to adapt to the diversity of the public it serves (Dyson et al., 1999, Plaisance et al., 2007). The current situation leads us to question its appropriation and to reflect on the mechanisms defined and put in place to welcome and support pupils with disabilities in their schooling in Cameroon..

This study aims to highlight the challenges (The challenge of resources, challenge of attitudes, beliefs and perceptions, educational challenge...) faced by the Cameroonian educational system in the context of the inclusive school. This study is exploratory and uses quantitative and qualitative (mixed) data. The analytical approach is constructivist are grouped around a pedagogic approach to education and use various data collection methods, all within a qualitative and quantitative paradigm.

**Keywords:** inclusive education; challenge; assume; Cameroonian; education system

## 1. THEORETICAL BACKDROP

Learning to read and write is an essential skill that, unfortunately, not all children learn sufficiently or receive the same opportunity to acquire (Benner et al., 2022). The differences are more evident between developed and developing countries (Genlott & Grönlund, 2013). In a time when societal change puts increasing demands on individuals' competence in using written language, schools must teach such skills to all children. The "information society" means a massive rise in informational activities due to the internet and other related information and communication technology (ICT) activities. More people need enhanced literacy skills to find, select, interpret, analyze, and produce information (Carpenter & Franke, 2010a).

Sensory systems are prodigious in their ability to reshape response properties following learning, and in the auditory system, plasticity has been observed from the cochlea to the cortex (Kraus & White-Schwoch, 2015). This learning is fundamental to our ability to function in and adapt to our environments. Experience navigating this sensory world drives language development – perhaps the most remarkable learning task humans can accomplish – and it is necessary to understand the principles that govern this plasticity to devise strategies to improve language and communication as well as scientific and mathematical skills in normal and disordered educational systems (Sands et al., 2015).

The Progress in International Reading Literacy Study (PIRLS) international benchmark on literacy includes four levels: low (locate and retrieve information), intermediate (make straightforward references), high (make inferences and interpretations with text-based support), and advanced (integrate ideas and information across texts to provide reasons and explanations) (Mullis et al., 2012). The information society requires more people to acquire skills towards this scale's high end (Szymkowiak et al., 2021). In Mullis et al.'s (2012) benchmark, even the highest-performing countries only barely achieve a score of 20% in the "advanced" category and just over 60% in the "high" category. Hence, improvement in literacy skills is essential in every country. Early age (5-7 years old) learning is crucial as, according to Myrberg (2007), children who lag in the early years of reading and writing development encounter considerable difficulties in following education later as texts get longer and more complicated.

The lag described here was again proved in later research that cognitive, social, and emotional learning (CSEL) is a comprehensive and integrated approach to education that combines mental, emotional, and social learning to promote student success. It is considered a predictor of learning abilities in children and young adults' early and later learning stages (Caprara et al., 2011). Benner et al. (2022) have shown that students who are exposed to social and emotional learning (SEL) methods (without the cognitive component, which will be emphasized in this work) tend to have better academic outcomes, including improved linguistic, scientific, and mathematical literacy. This approach can be particularly beneficial for students in elementary schools, where foundational skills are being developed.

CSEL includes cognitive and social-emotional learning components, among which emotional learning is a key element. SEL is developing self-awareness, self-control, and interpersonal skills vital for school, work, and life success. People with strong social-emotional skills can better cope with everyday challenges and benefit academically, professionally, and socially (UNICEF, 2023). Emotional intelligence is critical to academic success and linked to improved educational outcomes, including higher grades and standardized test scores. In an elementary school setting, emotional learning can help students better understand and regulate their emotions, leading to improved focus and attention in the classroom (Carter et al., 2004). Another critical aspect of CSEL is social learning. Social learning refers to the process by which students learn from peers. Social learning can take many forms in elementary school, including cooperative learning, peer tutoring, and group projects (WGU, 2020). By working with others, students can develop critical social skills, such as communication, collaboration, and problem-solving, essential for success in school and beyond (Carpenter & Franke, 2010a).

Cognitive learning is also an essential component of CSEL (Carpenter & Franke, 2010a). This approach to education recognizes that students learn best when actively engaged in the learning process. In an elementary school setting, this may involve hands-on, experiential learning activities that allow students to apply what they have learned in real-world contexts. For example, students might engage in scientific experiments, mathematical problem-solving activities, or linguistic challenges that require them to think critically and creatively (Vosoglou & Buckley, 2012). Thus, engaging children in sensory and motor activities such as drawing, writing, and physical activities can enhance their cognitive abilities, including language and literacy. These activities stimulate the brain and improve hand-eye coordination, essential for writing and reading. Additionally, children can develop their attention, memory, and problem-solving skills by participating in these activities, which are fundamental for language and literacy acquisition. Promoting sensory and motor skills can significantly impact the development of linguistic and literacy abilities in elementary school children (Battaglia et al., 2020). Furthermore, sensory activities, such as playing with toys, touching textures, and exploring the environment, can help children develop their sensory perception and memory skills, which are crucial for language and literacy acquisition (Greven et al., 2019). By engaging in sensory experiences, children can learn to identify and remember words and concepts and form connections between the physical world and language. Similarly, motor activities, such as drawing, writing, and physical exercise, can help children develop the fine motor skills required for writing and reading. Hand-eye coordination, dexterity, and muscle control are crucial for legibly writing letters and words and tracking lines of text when reading. Physical activities can also help develop attention, memory, and problem-solving skills, which are essential for language and literacy acquisition (Battaglia et al., 2020).

Incorporating sensory and motor activities into elementary school children's daily routines can profoundly impact their linguistic and literacy abilities. These activities can make learning more engaging, help children retain information, and create a foundation for continued growth and development. By promoting sensory and motor skills, teachers

and parents can help children build the skills they need to become successful language learners and literate individuals.

Finally, CSEL emphasizes the importance of a supportive learning environment. This can include a positive and inclusive school culture and practical classroom management strategies that promote student engagement and motivation (Carpenter & Franke, 2010b). Teachers can help students feel valued and respected by creating a supportive learning environment, improving academic outcomes, including enhanced linguistic, scientific, and mathematical literacy. CSEL supports a thorough and included approach to education that can positively impact linguistic, scientific, and mathematical literacy among students in elementary schools. By merging cognitive, emotional, and social learning strengths, CESL can help students develop the foundational skills they need to succeed in school and beyond (OECD, 2021).

## 2. OBJECTIVES AND RESEARCH QUESTIONS

This research work has set the following main objectives:

- **Objective no. 1.** To analyze the language achievements of the methodology EL HASADE (PACE) on elementary students within seven groups: 6 groups of students that will be detailed afterward and one group of teachers. This will be measured quantitatively.
- **Objective no. 2.** To study teachers' perceptions regarding the effect of cognitive and social-emotional learning on the same groups of students' motivation and classroom climate. This will be measured according to teachers' testimonials.

Other vital objectives of this article were:

- S.O.1. To analyze students' numeral achievements pre- and post-test to "El Hasade"- PACE intervention method for literacy acquisition improvement.
- S.O.2. To analyze teachers' testimonials to see if they think that, according to their observations of children in the classroom, cognitive, social, and emotional intervention (CSEL) plays a crucial role in developing student's motivation in elementary school children.
- S.O.3. To analyze teachers' testimonials to see if they think that, according to their observations of children in the classroom, the PACE integration method conducted here has a crucial role in developing positive classroom change in elementary school children.

Then, the following research questions are sought to be answered:

- **R.Q.1.** Can cognitive, social-emotional learning, as exhibited in the PACE method as an integrated tool, improve language achievements among children in elementary schools in Israel?

- **R.Q.2.** Can cognitive, social-emotional learning, as exhibited in the PACE method as an integrated tool, improve motivation among children in elementary schools in Israel?
- **R.Q.3.** Can cognitive, social-emotional learning, as exhibited in the PACE method as an integrated tool, improve classroom climate?

### 3. METHODOLOGY

#### 3.1. Context

EL HASADE (Hebrew acronym for precision, articulation, conception, enhancing vocabulary; PACE in English hereinafter) is a worldview of language learning, as well as Science and Mathematics through four specific conducts that disassemble the field of knowledge to its components through changing levels of thinking and diverse learning forms. The method focuses on skills using various types of memory (i.e., visual, auditory, and sensory-motoric), in which the student experiences language acquisition and multiple areas of opinion through rhythmic “working stations.” The method was primarily invented in the US, moved to Scandinavia (especially to Finland), and with its help, the Finns achieved exceptional results in local and foreign languages (Ahonen, 2021).

PACE operates on the following three levels:

- a. The cognitive level: learn using all types of memory skills.
- b. Social and emotional levels: while deciphering all the principles of SEL.
- c. Level of knowledge, information, and content.

The program aims to enhance students’ competencies, creativity, and curiosity.

According to teachers’ testimonials, another aspect is that sensory and motor skills incorporated in the PACE method play a crucial role in the development of linguistic and literacy abilities in elementary school children, which affect all three dimensions tested in this research.

#### 3.2. Participants

Group 1 – Third Grade in the city of Holon. 29 students tested (p1 to p29). The teacher is a former math teacher who was trained with the students on literacy skills. The school has a very low grade on a socio-economic level (7.25 out of 10, which is the score that the Ministry of Education ranks each school in Israel in several parameters of wealth and strength of the school’s population, where one is the strongest and 10 is the weakest). The school is Jewish and secular. Immigrant students (most of them refugees) came from Russia, Ukraine, and Sudan.

Group 2—Third Grade in the city of Holon. 22 students tested (p30 to p52), most of whom were new immigrants. Some have Russian and Ukrainian origins, and some are from Africa. The teacher is the same as in the first group, but the difference here is that she is not the home teacher in this class.

Group 3 – 4<sup>th</sup> graders in a Jewish religious school in Ashkelon. 25 students tested (p53 to 78)—all native Hebrew speakers. The school is graded 6 out of 10 at the socio-economic level (relatively weak). The teacher is a home class teacher and a Hebrew teacher in training. 4<sup>th</sup> graders in Israel are tested differently than all other classes. Whilst other classes have December and May internal exams for assessing improvements, 4<sup>th</sup> graders are tested in a national exam only once, and that grades the school towards similar schools in its region/religion/socio-economic status, etc.

Group 4 – 5<sup>th</sup> graders in a secular Jewish school in the northern part of the country, all the students are native Hebrew speakers. 22 students tested (p79 to 101). The school is considered highly strong in socio-economic status (2.0 out of 10). The school is graded 3 out of 10 in its socioeconomic level, meaning reasonably high. As mentioned in group 3, 4<sup>th</sup> graders in Israel are tested differently than all other classes. Whilst other classes have December and May internal exams for assessing improvements, 4<sup>th</sup> graders are tested in a national exam only once, and that grades the school towards similar schools in its region/religion/socio-economic status, etc.

Group 6—control group. Third grade. The control group was taken from the same school as group 3 in Ashkelon, except they did not work with PACE, and the research did not intervene in their studies.

#### Group 7 – Teachers

A group of 10 teachers participated in the semi-structured questionnaire. Nine out of 10 teachers were experiencing the method in their class; one was on maternity leave, so her class was the research's control group.

T1 – 3<sup>rd</sup> grade class teacher in religious school

T2 – 3rd-grade class teacher (control group) on maternity leave

T3 – 3<sup>rd</sup> grade class teacher in religious school

T4 – 3<sup>rd</sup> grade class teacher in secular school

T5 – 5<sup>th</sup> grade class teacher in secular school

T6 – 4th-grade teacher in a secular school

T7 – 5<sup>th</sup> grade class teacher in religious school

T8 – 4th-grade teacher in a secular school

T9 – 3rd-grade class teacher in a secular school for new immigrants

T10 – 4<sup>th</sup> grade class teacher in secular school

### 3.3. Instruments

Two instruments were used to cover the four objectives of this research:

- Specific Objective No. 1: For achievements, the formal Israeli Ministry of Education mapping has been used, conducted twice a year (in December and in May) across the country. The exam is in Hebrew and assesses language skills, reading and writing comprehension, vocabulary, grammar, and high-order thinking language skills for the 4th-grade exam. The formal outcomes published by the Israeli Ministry of Education have been taken for this research.

- Specific Objective No. 2: A semi-structured questionnaire was conducted among teachers who implemented the PACE method in their classrooms to assess classroom climate changes.
- Specific Objective No. 3: For emotional and personal motivation among elementary students, a semi-structured questionnaire was conducted among teachers who implemented the PACE method in their classrooms. This questionnaire has been validated through the Delphi method, and it includes the following questions:
  1. Write how the “El Hasade” (PACE) method affected you as a teacher.
  2. How did the “El Hasade” (PACE) method affect the classroom climate and learning culture?
  3. Did the “El Hasade” (PACE) method affect students’ abilities? If so, can you elaborate on how it did it?
  4. Explain whether there is a change in students’ motivation when “El Hasade” (PACE) is implemented in the classroom.
  5. Do you have any additional insights from the “El Hasade” (PACE) method that you can share here?

### 3.4. Variables

The following variables are identified for this study:

- Independent Variable 1 - I.V.1. PACE ("El Hasade") - Social-emotional and cognitive learning as an integrative tool.
- Dependent Variable 1 - D.V.1. Achievement improvement.
- Dependent Variable 2 - D.V.2. Classroom climate improvement.
- Dependent variable 3 - D.V.3 Students’ motivation.
- Moderating variable 1 – M.V.1. Native Hebrew speakers vs. new immigrants (Hebrew as a second language - HSL).
- Mediating variable ME.V. Teacher’s willingness to invest in the process.

### 3.5. Procedure

This research follows Mixed-Methods Research, through which qualitative and quantitative data were analyzed. It examines teachers’ attitudes regarding climate change in the classroom and students’ beliefs in emotional competence.

In the quantitative part, anonymous mappings of classes of students from the second grade to the sixth grade of mother tongue language have been conducted at the beginning of a year, before the intervention of the method, and at the end of the school year after the intervention by using PACE; that is, a pre-and post-test comparative analysis will be conducted.

Data were collected from different schools in Israel, and the researcher of this study has access to dozens of schools in Israel where PACE is being implemented, namely from schools in the Arab and Jewish sectors of the Israeli population. The study encompasses

four schools with six classes. To the best knowledge of the authors of this study, no research has been done that combines an examination of the three abovementioned dimensions (i.e., the cognitive level, the social and emotional level). The current research is unique also due to its focus on examining teachers' opinions about social-emotional change in their classroom and on the cross-reference with the achievements and grades of the students. Data will allow us to check whether there is a connection between the teachers' perceptions that this kind of intervention improves the grades, the classroom climate, and the student's sense of emotional competence in their class. Hence, the qualitative part of the current research is based on conducting 50 semi-structured interviews with teachers.

Content analysis has been conducted by following the Grounded Theory Model (Creswell & Poth, 2018), which these authors define as: "a qualitative research design in which the inquirer generates a general explanation (a theory) of a process, an action, or an interaction" (pp. 315–316).

#### 4. RESULTS

Results will be arranged according to the Research objectives established for this study, according to the influence of the independent variables: D.V.1 (achievements) for quantitative data (i.e., research objective no. 1); D.V.2 (classroom climate), and D.V.3 (students' motivation) (both of these for qualitative data, i.e., research objective no. 2).

##### 4.1. Results for Research Objective no. 1 – (quantitative data)

Before and after intervention (3<sup>rd</sup> grade).

**Table 1**

*Results objective no. 1 – (quantitative data) results (pre- and post-intervention)*

	No. of participating students	Results Dec. 2022 Average Pre- intervention	Results May 2023 Average Post- intervention	Percentage change
<b>School 1</b> (3 <sup>rd</sup> grade)	29	44.857	88.571	<b>97.43%</b>
<b>School 2</b> (3 <sup>rd</sup> grade)	22	60.787	86	<b>55.77%</b>
<b>School 3</b> (5 <sup>th</sup> grade)	22	61.90476	74.38095	<b>20.13%</b>
<b>School 6</b> (3rd grade)	24	76.522	68.435	<b>-10.58%</b>

**Table 2***Students' achievement data on reading comprehension for Nitzan school - 4th grade*

	High performance	Medium-high performance	Low-medium performance	Low performance
<b>The school in 2023 post intervention</b>	76%	13%	4%	7%
<b>The school in 2022 Pre-intervention</b>	64%	16%	16%	4%
<b>Other schools in the region in 2023</b>	64%	17%	8%	11%

*Note.* Source: Israeli Ministry of Education, 2023. The percentage change after intervention is 18.75%.

These national results have been translated from Hebrew. They reflect the Nitzan school's position on this official site in 2023 compared to other schools in that region and to the school itself in 2022 (before the intervention). The percentage change after the intervention is 18.75% (Ministry of Education, 2023).

**Table 3***Students' achievement on reading comprehension data for Rosh Haayin school - 4th grade*

	High performance	Medium-high performance	Medium-low performance	Low performance
<b>The school in 2023</b>	78%	16%	4%	2%
<b>The school in 2022</b>	51%	29%	6%	14%
<b>Other schools in the region in 2023</b>	64%	17%	8%	11%

*Note.* Data source: Israeli Ministry of Education, 2023. Results show significant improvement in high performance category from 2022 to 2023 (51% to 78%), demonstrating 52.94% increase after intervention.

Official results for Rosh Haayin school on students' achievement (reading comprehension) were taken from the Israel Ministry of Education (2023). These are national results translated from Hebrew, which reflect the school's position in 2023 as opposed to other schools in its region and to the school itself in 2022 (before the intervention). The percentage change after the intervention is 52.94%.

#### **4.2. Results for Research Objective No. 2 – (qualitative data)**

Data in this section belong to the content analysis obtained from the semi-structured questionnaire to ten participating teachers in the “El Hasade” method. Answers are arranged according to the questions:

##### **Q1: How did the “El Hasade” PACE method affect you as a teacher?**

3 prominent reactions to this question were:

- T4: “*At first with a lot of concerns about the process and success, but after several attempts and the assimilation in the class, I was excited to see the children's cooperation in the process*”.
- T6: “*A winning method. First, she instilled in me the joy of teaching. I wished for a change and the creation of quality and optimal interest in the language. I get excited every time I hear the girls are waiting for this class. My thinking for each student and work efficiency has increased on several levels. Also, the quality of teaching...*”
- T3: “*This method has affected me in that I feel much more professional in my planned and focused work. The very fact that in every class I met and heard all the students from my past at the station focused me much more on my work and, of course, also the matter of teaching diversity*”.

##### **Q2: How did the “El Hasade” PACE method affect the classroom climate and learning culture?**

The teachers who were involved in the process mentioned significant changes in their classroom climate:

- T1: “*The method had an effect in that the children learned to care for each other during work and continued to the rest of the lessons and breaks, learning in a different, more independent and diverse way*”.
- T7: “*In the 5<sup>th</sup> grade, in my opinion, the atmosphere has improved, but real persistence is needed in several subjects and every week for a significant change to occur*”.
- T10: “*The students are much more independent learners, it established more the learning habits, the learning in pairs exposed the children to the student with whom I had less contact and this created new friendships and connections, the learning in groups accustomed them to work together, the*

*clear rules that get along in the group greatly advanced it also in terms of respectable discourse Among them and especially on a better climate”.*

One of the teachers (T5) indicated that she did not feel any change in her class, and another teacher (T3) did not participate in the intervention due to maternity leave.

**Q3. How did the “El Hasade” method affect students’ abilities and motivation? You can talk about struggling students separately and excelling students separately, and of course also about the mass of average students.**

- T6: “*The struggling students in a regular class do not cooperate. In this class you work and participate actively. Of course, each at his own level*”.
- T4: “*I think that both strong and weak got a chance to prove themselves, their self-confidence increased in the way they approach the task, and this had a good effect on the weak students by being able to finish tasks in the class and feeling that they were an inseparable part of the class - a direct continuation of the breaks that exposed them to new friends. And for the strong students, the effect was that they felt they were useful and helping their friends - peer learning*”.

One of the teachers declared that she failed and explained the reasons why:

- T3: “*It is very difficult to apply the method in my class, there are many emotional and behavioural difficulties that make meaningful learning extremely difficult. Yet, I wasn’t consistent and whenever it was too difficult, I went back to regular teaching*”.

**Q4: Explain whether there is a change in students’ motivation when “El Hasade” is operated in the classroom:**

Except 2 teachers, all other 8 stated an increase in students' motivation and added:

- T7: “*It was very helpful for the weak children to work with strong ones, and it seems that they cooperated in the lessons. Sometimes, the powerful had to wait for the struggling friend and sometimes showed impatience*”.
- T9: “*(The students were) Highly motivated. The rationale for dividing the pairs according to strong is very important. The strong students, on the one hand, learned and developed additional abilities and, on the other hand, dealt with the values of others. On the one hand, the weak felt trusted, but on the other hand, they developed a capacity for independence and peer learning, which is often more beneficial than any teacher*”.
- T10: “*I feel that this is where a struggling student found himself in much more than a frontal lesson in language classes. At the stations where he could perform tasks, he was busy working and experiencing successes*”.

**Q5: Do you have any additional insights from the “El Hasade” method that you can share here?**

Some of the teachers remarked the following insights they had along the year:

- T3: “*You need patience, constant exposure to the children and daily practice*”.
- T4: “*That the learning materials will be ready and there will be no need to prepare them because it takes much time to prepare them.*”
- T5: “*A method that requires preparation in class, it is advisable to discuss in plenary before starting to work that way*”.

**Q6: Can you say if the implementation of the PACE method was effective for your students?**

Participants had expressed their content from the instructor which guided them throughout the year:

- T7: “*In my opinion, this method is very successful in all aspects, it led me believe in so many students I felt I lost before applying El Hasade*”.
- T9: “*The ability to reach all the students in a two-hour lesson is wonderful and accurate in my opinion. It is important for me to say that the joy of learning the method and the constant pushing not to be afraid and to believe in it came to me from dear Orly (the instructor), we opened and solved everything complex together. She knows how to wrap and do it perfectly. She has a big part in our success!!! Love her very much!*”.
- T10: “*Yes! that we won Orly (the instructor) and there is nothing like it! We were skeptical about everything related to the method and she came to us very patiently. Always available and ready to help both in her free time and when we went through observation and supervision classes... that made the whole experience for both us and the students so meaningful.*”

## 5. DISCUSSION

El Hasade (PACE) is a new approach that connects learning to sensory, emotional, and social systems in ways that allow students to mobilize personal and joint forces in language acquisition. In the present study, we strained to show that the approach, which combines these methodologies, provides answers to students on three levels: cognitive (presented by achievements), emotional (presented by motivation) and social (presented by teachers' testimonials on classroom climate). For this purpose, a study has been conducted in six classes: three third-grade classes (with one of them being the control group), two fourth-grade classes, and one fifth-grade class. Three Israeli Jewish populations have been examined: Two classes of new immigrants (coming mainly from Russia, Asia, and Sudan), one old Israeli secular class in a high socioeconomic area, and one class in a religious Jewish school in a relatively low socioeconomic area. The sixth

classroom was a third-grade class in a school where intervention was carried out, except for this class due to the teacher's maternity leave, so it served as the control group.

The International Index for the Progress in International Reading Literacy Study (PIRLS) (Martin et al., 2007) on literacy includes four levels: low (locating and retrieving information), intermediate (making simple references), high (making inferences and interpretations with text-based support) and advanced (integrating ideas and information across texts to provide reasons and explanations) (Mullis et al., 2012). Improving literacy skills is important in every country. Learning at an early age (5-7 years) is of crucial importance since, according to Myrberg (2007), children who are left behind in early years, the development of reading and writing encounter considerable difficulties in following education later as the texts become longer and more complicated. Our research showed that the highest changes in grades were in the third grades of the immigrant children (97.45% and 55.77% respectively), in the fourth grades the percentage of change was 18.75% and 52.94%) and finally, the percentage of change was in the fifth grade - and it was 20.13%. This is a small sample, and it will be interesting to test this on a larger scale and in a wider range (from first grade to sixth grade for example) to get numbers that verify the literature. Simultaneously, there is a connection between learning at a younger age and the percentage of improvement in grades.

As mentioned earlier, the innovation in this study is the addition of the cognitive dimension to social-emotional learning (CSEL). As mentioned, SEL is a process of developing self-awareness, self-control, and interpersonal skills essential for success in school, work, and life (Paolini, 2020). People with strong social-emotional skills can better cope with daily challenges and benefit academically, professionally, and socially (UNICEF, 2023). This research expression is validated in the semi-structured questionnaire conducted among 10 participating teachers, one of whom (T4) claimed: *"The method had an effect in that the children learned to take care of each other during work and continued to the rest of the lessons and breaks, they learned in a different, more independent and diverse way.* To this, T9 added that: *"The method made the students much more independent, learn, think, cope and above all the ability they are capable of".*

Emotional intelligence is critical to academic success and linked to improved educational outcomes, including higher grades and standardized test scores. In an elementary school setting, emotional learning can help students better understand and regulate their emotions, leading to improved focus and attention in the classroom (Carter et al., 2004). T9 said that *"there is a high motivation. The rationale for dividing the pairs according to strong-weak is fundamental. The strong students on the one hand learned and developed additional abilities and on the other hand dealt with the values of others. The weak on the one hand felt trusted but on the other hand developed the ability to be independent and learn Peers who are often more helpful than any teacher."* T10 added that: *"I feel that this is where a struggling student found himself in much more than a frontal lesson in language classes. At the stations where he could perform tasks, he was busy, worked and experienced successes. Regarding an outstanding student, this is the place where there was an opportunity to empower him, he would get a partner who needed more help, and I would explain to him individually that I believe in him and what I expect from him. Of course, if there was a difficulty then we would change, and it really*

*worked. I have no doubt that the students' grades are completely related to the form of learning itself."*

An early study (Caprara et al., 2011) showed that SEL is a comprehensive and integrated approach to education that combines the strengths of learning to promote student success. It is considered a predictor of learning abilities in children and young adults' early and late learning stages. Later studies (such as Bener et al., 2022) showed that students who are exposed to social and emotional learning methods (without the cognitive component that will be emphasized in this work) tend to get better academic results, including improved linguistic, scientific, and mathematical literacy. This approach can be particularly beneficial for students in primary schools, where basic skills are developed. This was confirmed by T9, who stated: "*The changes in the grades surprised them; they were very excited to see the large differences between the grades of December 22 and the grades of May 23, since there was not one student who did not improve his grades, even if he started with a very minimal grade. The outstanding ones also improved but, in any case, the range of their change was smaller.*" T8 even mentioned that she was excited to see special education children succeeding in the regular exam "*without difficulty*".

As mentioned, the Hebrew language scores of the schools that participated in the study increased on average from 20% in the school with the Native Hebrew speaking population whose socioeconomic status score is very high, to 97% in the school of new immigrants from a very low socioeconomic average. We discovered, interestingly, that there is an inverse relationship between the school's socioeconomic average and the percentage of change in the scores of participating students, that is, the higher the socioeconomic average, the lower the percentage of improvement and vice versa (see table 1 – the differences between scores from school 1 (new immigrants) and school 3 (native Hebrew speakers)). This study assumes that the reasons are diverse and tend to stem from a lack of motivation among strong schools where there is access to private tutoring and external assistance from the parents (not from the teachers and students, but systemically). Also, other reasons can emerge from the starting point of a school for immigrant children when the averages started at about 40 out of 100 and ended at 89 out of 100. The ability to improve is more significant than a school that started with an average score of 60. Nevertheless, the achievements of the "strong" schools did not reach the achievements of the "weak" schools, which were characterized by weak populations and new immigrant students for several assumed reasons.

Social learning is another important aspect of the integrative method examined in this study. Social learning refers to the process by which students learn from peers (Hortigüela Alcalá et al., 2019). In an elementary school setting, social learning can take many forms, including cooperative learning, peer teaching, and group projects (WGU—Western Governors University, 2020). The teachers participating in this research mentioned three significant changes that occurred in their classrooms with the change in the learning method: Change no. T4: 1) "*The method affected the children in the way that they learned to take care of each other during work. This continued for the rest of the lessons and breaks as well.*" 2) T7: "*The children spoke in the 'language' of El Hasade, in the special terms of cooperation that help in the climate change in the classroom*". 3)

T10: “*The students reduced their dependence on us, the teachers, and solved problems on their own using higher social resources*”. These findings concur with the literature of peer teaching, problem solving together and cooperation (Mitsea, Drigas, & Mantas, 2021). By working with others, students can develop critical social skills, such as communication, collaboration, and problem solving, that are essential for success in school and beyond (Carpenter et al., 2010a). T7 (a 5<sup>th</sup> grade teacher) stated that: “*Students learn independently, in a very significant way, this established their learning habits more, learning in pairs exposed the children to a student with whom I had less contact and this created new friendships and connections, learning in groups accustomed them to working together, the rules The fact that they get along well in the group has promoted it a lot also in terms of the respectful discourse between them and especially about a better climate that was created in other lessons and even during breaks.*”

Cognitive learning is an important component in various studies (Carpenter et al., 2010a). This approach to education recognizes that students learn best when they are actively involved in the learning process. In an elementary school setting, this may involve hands-on-experiential learning and activities that allow students to apply what they have learned in real-world contexts. For example, students may engage in scientific experiments, mathematical problem-solving activities, or linguistic challenges that require them to think critically and creatively (Vosoglou & Buckley, 2012). Thus, engaging children in sensory and motor activities such as drawing, writing, and physical activities can improve their cognitive abilities, including language and literacy. These activities stimulate the brain and improve hand-eye coordination, essential for writing and reading. In addition, by participating in these activities, children can develop their attention, memory, and problem-solving skills, which are fundamental to language and literacy acquisition. T8 stated that: “*particularly weak children, who did not hold a pen in their hand throughout the year, began to participate actively, showed interest, ability and their achievements improved miraculously*”. T1 (3<sup>rd</sup> grade teacher of new immigrant children) said that the student of the combined class (special education) got a score of 80 in the regular language test, which was not adapted for children in special education. The teachers of the fourth grade (T6 and T8), who are required to teach the children for the national exam during 3 consecutive months, described that T8: “*the method created a higher ability of concentration among the children, the method of moving between the stations, the change in tasks from station to station, and the need to work in an orderly manner, helped the students to concentrate overtime and perform complex tasks that they could not perform in a normal face-to-face class.*”

Promoting sensory and motor skills may have a significant impact on the development of language and literacy skills in elementary school children (Bataglia et al., 2020). Furthermore, sensory activities, such as playing with toys, touching textures, and exploring the environment, can help children develop their sensory perception and memory skills, which are essential for language and literacy acquisition (Greven et al., 2019). By engaging in sensory experiences, children can learn to recognize and remember words and concepts and make connections between the physical world and language. Similarly, motor activities such as drawing, writing, and physical activity can help children develop the fine motor skills required for writing and reading. Hand-eye

coordination, dexterity, and muscle control are all essential to writing letters and words legibly and following lines of text while reading. Physical activity can also help develop attention, memory, and problem-solving skills, which are important for language and literacy acquisition (Bataglia et al., 2020). Five of the participating teachers (T7, T9, T8, T5 & T1) stated that the games, tools and devices given to the children for learning at the stations, the use of plasticine, and the materials that required the children to touch, feel and create, helped them develop memory, retrieval and retrieval of new words.

Finally, the PACE method emphasizes the importance of a supportive learning environment. This can include a positive and inclusive school culture as well as effective classroom management strategies that promote student engagement and motivation and this is consistent with the research of Carpenter et al. (2010b). By creating a supportive learning environment, teachers can help students feel valued and respected, leading to improved academic outcomes, including improved language, science and math literacy. PACE combined the cognitive dimension with the familiar social emotional learning in a new way and connected three dimensions in the students (CESL) while giving brain tools and emotional and social support in the form of friends, classroom climate, and tools for an educational classroom culture. This approach is fundamental and comprehensive to education in the field of linguistic literacy and has a positive effect on linguistic literacy among students in elementary schools. By blending cognitive, emotional, and social learning strengths, CESL, as this study performed the integration, can help students develop the foundational skills they need to succeed in school and beyond (OECD, 2021).

As for critical reviews about the SEL method in the US, this research wishes to point out the attention towards Is and Matters (2019) research that provides a critical perspective on the trends in the field of Social Emotional Learning (SEL) in the United States. The authors discuss how SEL has become a major emphasis in American education since the early 1990s, with numerous programs and initiatives focused on enhancing emotional skills and competencies among students. This article highlights the tension between the stated ideals of SEL, such as promoting caring, community, and diversity, and the actual practices employed in many programs. It argues that while SEL aims to address social and emotional needs in educational settings, it often prioritizes individualistic models of self and focuses on controlling emotions and behaviors. This narrow focus may undermine the broader goals of building caring and inclusive classroom environments. Our research shows the extreme opposite results, that is, how the new CSEL integrative method emphasizes collaboration, team playing, and peer teaching in order not to promote some students on the expense of others, thus pairing all students as heterogenic couples according to Judaism ancient method "Hevruta" (meaning friends working together) so peer studying, mutual fertilizing and joint efforts increases both strong and week students in the "Hevruta" as in the group they are jointed. Is and Matters (2019) also point out the lack of clarity and conceptual confusion surrounding SEL, as the term is used to encompass a wide range of programs with different approaches. Moreover, there is ongoing debate and skepticism about the effectiveness of SEL programs, with some studies lacking rigorous evaluation methods. The research conducted here is three-level research combining numeral results of all classroom students and teachers' testimonials reflecting two defined qualitative outcomes such as self-

motivation regarding emotional learning and classroom climate that expresses social learning.

The hereby research "Engaging in a reactive response to this critique, thereby succumbing to the article's manoeuvre" the author of this research conducted it in different classroom environments as mentioned before in order to overcome the cultural biases mentioned and dares to suggest the combined method of CSEL and its defined measurements proposed here (achievements, self-motivation and classroom climate) as a unified practice for performing SEL optimally.

## 6. LIMITATIONS OF THE STUDY

The following limitations have been identified for this study. To the best knowledge of authors, the only valid incorporated questionnaire analyzing social and emotional traits in children so far is "Ages and Stages" (Squires & Twombly, 2002), but it is limited to pre-schoolers. A literature review has shown that most researchers use this questionnaire also in elementary schools (e.g., Carter et al., 2004). Until now, social-emotional learning questionnaires have been suitable for children up to the age of five. As such, an inclusive questionnaire is not found for school-age children, so this has been used for this research.

Due to space limitations on the journal, the current study will not include the examination of mathematical and science literacies after the intervention of this method in schools. Therefore, we will focus exclusively on the examination of the changes in the linguistic literacy of the students, which will allow researchers to examine mathematical and scientific literacy in future studies. Moreover, a cognitive questionnaire will be found later.

Also, only three sectors in the State of Israel will be examined: 1) Secular Israeli Jewish students; 2) religious Israeli Jews; and 3) Israeli Jews children of immigrants. Children with special needs, special populations, or children with special lip difficulties will not be tested, nor will we study Arab schools, all due to a lack of sufficient research data. The interviews were conducted only with teachers due to the age of the participant children.

## 7. CONCLUSION

Finally, the PACE method emphasizes the importance of a supportive learning environment. This can include a positive and inclusive school culture as well as effective classroom management strategies that promote student engagement and motivation and this is consistent with the research of Carpenter et al. (2010b). By creating a supportive learning environment, teachers can help students feel valued and respected, leading to improved academic outcomes, including improved language, science and math literacy. PACE combined the cognitive dimension with the familiar social emotional learning in a new way and connected three dimensions in the students (CESL) while giving brain tools and emotional and social support in the form of friends, classroom climate, and tools for an educational classroom culture. This approach is fundamental and comprehensive to

education in the field of linguistic literacy and has a positive effect on linguistic literacy among students in elementary schools. By blending cognitive, emotional, and social learning strengths, CESL, as this study performed the integration, can help students develop the foundational skills they need to succeed in school and beyond (OECD, 2021).

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## **9. CONFLICT OF INTEREST**

The authors declares no conflict of interest that could have influenced the research findings presented in this study.

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## **REFERENCES**

Ahonen, A. K. (2021). Finland: Success through equity—The trajectories in PISA performance. In N. Crato (Ed.), *Improving a country's education: PISA 2018 results in 10 countries* (pp. 121–136). Springer. [https://doi.org/10.1007/978-3-030-59031-4\\_6](https://doi.org/10.1007/978-3-030-59031-4_6)

Battaglia, G., Giustino, V., Tabacchi, G., Alesi, M., Galassi, C., Modica, C., Bellafiore, M., Bianco, A., & Palma, A. (2020). Effectiveness of a physical education program on preschoolers' motor and pre-literacy skills from the training-to-health project: A focus on weight status. *Frontiers in Sports and Active Living*, 2, Article 579421. <https://doi.org/10.3389/fspor.2020.579421>

Benner, G. J., Strycker, L. A., Pennefather, J., & Smith, J. L. M. (2022). Improving literacy for students with emotional and behavioral disorders: An innovative approach. *Teacher Education and Special Education*, 45(4), 331–348. <https://doi.org/10.1177/08884064211060878>

Caprara, G. V., Vecchione, M., Alessandri, G., Gerbino, M., & Barbaranelli, C. (2011). The contribution of personality traits and self-efficacy beliefs to academic achievement: A longitudinal study. *British Journal of Educational Psychology*, 81(1), 78–96. <https://doi.org/10.1348/2044-8279.002004>

Carpenter, T. P., & Franke, M. L. (2010a). Cognitively guided instruction in early mathematics education: An exploratory study. *Journal of Mathematics Teacher Education*, 13(1), 3–20. <https://doi.org/10.1007/s10857-009-9124-1>

Carpenter, T. P., & Franke, M. L. (2010b). Supporting English language learners in mathematics classrooms. *Teaching Children Mathematics*, 16(8), 476–483. <https://doi.org/10.5951/TCM.16.8.0476>

Carter, A. S., Briggs-Gowan, M. J., & Davis, N. O. (2004). Assessment of young children's social-emotional development and psychopathology: Recent advances and recommendations for practice. *Journal of Child Psychology and Psychiatry*, 45(1), 109–134. <https://doi.org/10.1046/j.0021-9630.2003.00316.x>

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.

Genlott, A. A., & Grönlund, Å. (2013). Improving literacy skills through learning reading by writing: The iWTR method presented and tested. *Computers & Education*, 67, 98–104. <https://doi.org/10.1016/j.compedu.2013.03.007>

Greven, C. U., Lionetti, F., Booth, C., Aron, E. N., Fox, E., Schendan, H. E., Pluess, M., Bruining, H., Acevedo, B., Bijttebier, P., & Homberg, J. (2019). Sensory processing sensitivity in the context of environmental sensitivity: A critical review and development of research agenda. *Neuroscience & Biobehavioral Reviews*, 98, 287–305. <https://doi.org/10.1016/j.neubiorev.2019.01.009>

Hortigüela-Alcalá, D., Hernando-Garijo, A., Pérez-Pueyo, Á., & Fernández-Río, J. (2019). Cooperative learning and students' motivation, social interactions and attitudes: Perspectives from two different educational stages. *Sustainability*, 11(24), Article 7005. <https://doi.org/10.3390/su11247005>

Kraus, N., & White-Schwoch, T. (2015). Unraveling the biology of auditory learning: A cognitive-sensorimotor-reward framework. *Trends in Cognitive Sciences*, 19(11), 642–654. <https://doi.org/10.1016/j.tics.2015.08.017>

Mitsea, E., Drigas, A., & Mantas, P. (2021). Soft skills & metacognition as inclusion amplifiers in the 21st century. *International Journal of Online & Biomedical Engineering*, 17(4), 51–66. <https://doi.org/10.3991/ijoe.v17i04.21281>

Myrberg, E. (2007). The effect of formal teacher education on reading achievement of 3rd-grade students in public and independent schools in Sweden. *Educational Studies*, 33(2), 145–162. <https://doi.org/10.1080/03055690601068311>

#### Official documentation and reports

Martin, M. O., Mullis, I. V. S., & Kennedy, A. M. (2007). *Progress in International Reading Literacy Study (PIRLS): PIRLS 2006 technical report*. International Association for the Evaluation of Educational Achievement.

Ministry of Education. (2023). *National assessment results for elementary education in Israel 2022–2023*. Israel Ministry of Education.

Mullis, I. V. S., Martin, M. O., Foy, P., & Drucker, K. T. (2012). *PIRLS 2011 international results in reading*. International Association for the Evaluation of Educational Achievement.

OECD. (2021). *Beyond academic learning: First results from the social and emotional skills survey*. OECD Publishing. <https://doi.org/10.1787/92a11084-en>

Paolini, A. C. (2020). Social emotional learning: Key to career readiness. *Anatolian Journal of Education*, 5(1), 125–134.

Sands, D., Trudeau, N., & Bryson, S. E. (2015). Sensory play and language development in young children. *Journal of Early Childhood Research*, 13(2), 143–153. <https://doi.org/10.1177/1476718X14548783>

Squires, J., & Twombly, E. (2002). *Ages & stages questionnaires: Social-emotional*. Paul H. Brookes Publishing.

Voskoglou, M. G., & Buckley, S. (2012). *Problem-solving and computational thinking in a learning environment*. arXiv. <https://arxiv.org/abs/1212.0750>

UNICEF. (2023). *Social and emotional learning in education*. United Nations Children's Fund.

Western Governors University. (2020, May 7). *How social learning theory works in education*. <https://www.wgu.edu/blog/guide-social-learning-theory-education2005.html>