

Research Article

An examination of the impact of the productive generations program on the entrepreneurial skills of students with learning disabilities

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This study aims to examine the impact of the Productive Generations Program on the entrepreneurial skills of Students with Learning Disabilities in relation to local products based on agriculture and livestock in their region. The study was conducted with 17 seventh-grade Students with Learning Disabilities enrolled in middle schools located in the city center of a province in Eastern Türkiye. The research was designed as a single-group pretest-post-test quasi-experimental study. Data were collected through a scenario-based entrepreneurial skills interview form consisting of semi-structured questions. The data were analyzed using entrepreneurial skills assessment rubrics, while statistical analyses employed the Wilcoxon Signed-Rank Test and descriptive analysis techniques. The findings revealed a significant difference between pre- and post-intervention interview scores. A significant increase was observed in the students' mean scores regarding entrepreneurial skills associated with the economically valuable local products of their region after the intervention. Following the program, the majority of students reached a moderate level of entrepreneurial skills, although none achieved an advanced level. The results demonstrate that the Productive Generations Program is effective in enhancing the entrepreneurial skills of Students with Learning Disabilities concerning local products with economic value in their geographical context. However, it was concluded that the program content needs to be further developed to enable students to attain higher levels of entrepreneurial skills.

Keywords: Entrepreneurial skills; Learning disabilities; Middle school students; Productive generations program

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1. Introduction

Nowadays, individuals are expected not only to achieve academic success but also to possess various life skills. Among these, entrepreneurship holds an important place as one of the competencies demanded from individuals in the rapidly changing world of the 21st century. It stands out both in enabling individuals to realize their potential and in allowing them to make

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economic and social contributions to society (Khushbakht Sadriddinovich, 2025). Entrepreneurial skills are among the fundamental competencies that enable individuals to produce creative solutions to personal and social problems, take risks, think innovatively, and demonstrate their potential (Bayram & Aslan, 2025; Jardim, 2021; Lee & Wang, 2017). This skill also facilitates participation in economic life, increases employment opportunities, and supports lifelong learning (Adenutsi, 2023; Biney, 2021).

Acquiring this skill from an early age is of great importance in guiding an individual's future life (Toh et al., 2025). Especially for individuals with Learning Disabilities [LD], acquiring this skill not only enhances self-confidence but also supports their active participation in society (Filiz & Güneş, 2023). This is because individuals with LD are among the groups most affected by today's increasing unemployment problem (Izam & Mohamed, 2020). Therefore, it is of considerable importance for individuals with LD to develop independent living skills to adapt to social conditions, and for educational policies to be designed accordingly (Mohd Kamil et al., 2023). LDs are defined as a disorder or delayed development in one or more processes of speaking, reading, writing, language, or arithmetic (Govindasamy et al., 2022; Muktamath et al., 2022; Yılmaz & Yılmaz, 2024). These individuals struggle with such difficulties from the early stages of their education (Wardhani, 2023). With early diagnosis and appropriate education, however, SLDs can hold on to life more firmly (Polak & Grossman, 2024; Weiss et al., 2023). Nevertheless, within traditional educational approaches, Students with Learning Disabilities [SLDs] are often placed in the background and are unable to sufficiently benefit from creative, practical, and production-based entrepreneurship practices that would allow them to realize their potential (Mpuangnan et al., 2024; Pavey et al., 2021).

This situation negatively affects not only the educational process of the individual but also their future participation in social and economic life (Krämer et al., 2021). There are various entrepreneurial success stories demonstrating that many individuals with LD in the past, for instance, those with LDs, such as dyslexia, including Richard Branson and Charles Schwab, have played significant roles in developing major projects. At this point, it is of great importance to support such individuals with educational programs designed according to their interests and needs (Aktan, 2020). Engaging individuals with LDs in production-based processes to develop entrepreneurial skills enhances their self-confidence, supports their social adaptation, and enables them to acquire vocational competencies (Powers et al., 2021). Therefore, it is essential to develop programs that provide opportunities for hands-on learning through tangible production processes directly related to students' immediate environment (Bouck et al., 2018). Connecting SLDs to agricultural and livestock-based economic activities, which are widespread in rural areas, not only provides them with learning opportunities grounded in real-life contexts but also contributes to the cultivation of individuals who can add value to the local economy (Polo-Blanco & González López, 2021; Umar & Rashid, 2019). Recent studies have highlighted the positive impacts of production-oriented entrepreneurship practices carried out within the scope of special education. For example, Dakung et al. (2022) recommend producing creative business ideas through teamwork for students who have learning difficulties. SLDs, who possess the potential for independent living and economic contribution, can succeed by participating in specialized programs, particularly those focused on the food sector (Othman et al., 2024). However, these studies are limited in number, and examples of entrepreneurship-based practices that are structured in close integration with geographical and economic contexts remain scarce.

In the case of Türkiye, there is a notable lack of original, localized, and practice-oriented programs aimed at developing the entrepreneurial skills of SLDs. Most existing entrepreneurship education programs are designed for the general student population, and systematic data on the participation of individuals with special educational needs are scarce (Daniel & Almeida, 2021; Kiliçoğlu & Yildirim, 2023; Meral & Yalçın, 2022; Rosique-Blasco et al., 2016). This limitation restricts the opportunities of students with special needs to become independent and productive members of the economic sphere, while also neglecting their potential contributions to local

development. This study investigates how SLDs develop entrepreneurial skills through the Productive Generations Program [PGP], which was designed around agricultural and livestock products, the main sources of livelihood in their geographical region. The program emphasized students' active participation in production processes, promoted hands-on learning, and aimed to foster entrepreneurial skills through these experiences. The study is grounded in theoretical approaches that argue that the development of entrepreneurial competencies among SLDs is made possible when they learn in practical, production-based environments. In particular, experiential learning models emphasize processes in which students actively construct knowledge (Kolb, 2014). Production-oriented entrepreneurship education in fields that directly connect to everyday life, such as agriculture and animal husbandry, aligns well with these theoretical perspectives. Participation in a program based on economic activities that students can directly observe in their daily lives has made the educational content more meaningful and strengthened the connection between learning and real-life contexts. In this respect, the study not only demonstrates the development of individual competencies but also exemplifies an educational model that may contribute to local development by preparing these students to play active roles in their communities in the future. The PGP offers a model to support entrepreneurship-related skills such as production, collaboration, and innovation among individuals with LDs. Examining the impact of this program on SLDs' entrepreneurial skills provides both a concrete practice-based example of fostering entrepreneurship competencies in the field of special education and an important step toward promoting the active participation of these individuals in social life. In Türkiye, structured entrepreneurship education programs targeting SLDs remain highly limited. Existing programs are primarily designed for the general student population and are not adapted to the needs or participation of students with special needs. For this reason, entrepreneurship education programs tailored to the individual learning needs of SLDs, their local environment, and regional economic resources are urgently required. The guiding research question is as follows: "What is the effect of the PGP on the entrepreneurial skills of SLDs?"

2. Theoretical Framework

2.1. SLDs and Entrepreneurial Skills

An LD refers to a disorder that manifests as difficulties in one or more of the basic psychological processes involved in understanding or using spoken or written language, and may be expressed through deficits in listening, thinking, speaking, reading, writing, spelling, or performing mathematical calculations (Kavale & Forness, 2000). The term is commonly used in the field of special education to describe one of the most frequent types of disabilities, typically arising from one or more cognitive processing impairments (Özçivit Asfuroğlu & Fidan, 2016). These difficulties stem from deficits or disorders in the fundamental cognitive processes related to understanding or using spoken or written language (Govindasamy et al., 2022). Dyslexia (reading), dysgraphia (writing), and dyscalculia (mathematics) are the primary classifications of LD (Ministry of National Education, 2020). LD can also be categorized based on the type of information processing involved or the specific difficulties caused by a processing deficit (Govindasamy et al., 2022). Although individuals with LDs may appear typical, they often display educational, social, emotional, and behavioral difficulties when compared to their peers (Lane et al., 2006). LDs thus refer to learning problems associated with weaknesses in both academic and social skills (Osi & Osi, 2022). As a result, these individuals often do not feel adequately suited to school, social, or work environments (Hall et al., 2002). Nevertheless, it is well established that individuals with LD can be creative, practical thinkers who perform successfully in hands-on tasks (Nasser Alkathiri et al., 2024). Since students with LD struggle particularly in reading, writing, or mathematics, they require special education services and additional support (Görgün & Melekoğlu, 2019). Accordingly, their education must emphasize concrete and experiential teaching methods rather than abstract concepts (Bouck et al., 2018; Filippatou & Kaldi, 2010). Furthermore, applied learning settings are known to enable students with LD to demonstrate their potential more effectively

(Grigorenko et al., 2020). Among the most essential life skills that individuals with LD need to acquire in the 21st century is entrepreneurship (Wiklund et al., 2018). Entrepreneurship is one of the fundamental competencies that can enable these individuals to stand on their own and integrate into society. It can be defined as the process of recognizing opportunities, evaluating them, taking risks to act, and developing an innovative product or service (Lackéus, 2015). Beyond generating economic profit, entrepreneurship also encompasses a wide set of competencies such as creative thinking, responsibility, collaboration, decision-making, and problem-solving (Sampene et al., 2021). Key entrepreneurial skills can be grouped under areas such as production, planning, leadership, financial literacy, and customer relations (Harrison et al., 2018; Mitchelmore & Rowley, 2010).

Research indicates that such competencies can be developed through education and that instilling them from early ages provides significant contributions to both professional and personal lives (Galvão et al., 2020; Vakili et al., 2016). Through entrepreneurship, they can develop themselves toward living independently and productively (Pérez et al., 2022). It also offers them a means of sustaining life and achieving economic independence within their own local contexts (Govindasamy et al., 2022). In this regard, leveraging the potential of students with LD in production- and practice-based areas such as entrepreneurship not only strengthens their sense of personal achievement but also enhances their self-confidence and supports their active participation in community life (Ab Halim et al., 2019; Powers et al., 2021).

3. Method

3.1. Research Design

In this study, a single-group pre-test-post-test quasi-experimental design was adopted. The accessibility of SLDs, as a special population, makes it challenging to increase the sample size. Small samples, particularly in such sensitive groups, allow for obtaining in-depth and meaningful data. Therefore, in this study conducted with this specific group, the effectiveness of the intervention was examined through pretest-post-test measurements. This design was chosen to evaluate the impact of the implemented program on the entrepreneurial skills of SLDs. Within this framework, the study aimed to examine the effectiveness of an educational program designed to enhance the entrepreneurial skills of SLDs in relation to agricultural and livestock products, which constitute the economic resources of their region.

3.2. Participants

The participants of the study consisted of a total of 17 SLDs (eight female, nine male) enrolled in the eighth grade at public middle schools located in the city center of a province in Eastern Türkiye. Participants were selected using a purposive sampling method. Although a total of 30 SLDs were reached in the province where the study was conducted, only 17 were included in the study based on voluntary participation and parental consent. Written consent was obtained from both the relevant school administrations and the students' families to ensure their participation in the study. The primary criteria for participant selection included voluntary participation of students and their families, written consent from parents, and approval from the school guidance services. This multi-stage approval process was conducted in accordance with ethical principles. In addition, ethical approval for the research process was officially obtained from the ethics committee of the researchers' affiliated university as well as from the Provincial Directorate of National Education, where the study was carried out.

3.3. Implementation Process

The first stage of this study involved designing the "Productive Generations Guide", which served as the content framework for the program to be implemented for SLDs. In the initial step toward developing the draft of the guidebook, the research team conducted both individual and focus group interviews with 15 science teachers who taught the SLDs. During these interviews,

information was gathered regarding the processes these teachers employed to develop students' entrepreneurial skills, the challenges they encountered, and their suggestions for improvement.

In the second stage, the researchers created a draft guidebook containing implementation guidelines and suggested activities, based on both the teacher interviews and insights obtained from the relevant literature. The third stage involved an expert review of this draft guide. This evaluation was conducted through a workshop supported under the TUBITAK 1001 program. Seven faculty members participated in the workshop, including two experts in special education, three in science education, one in guidance and psychological counseling, and one in Turkish language education. In addition, five in-service science teachers, three guidance counselors, and three special education teachers were included to ensure a comprehensive content evaluation. This multi-stakeholder evaluation process aimed to enhance both the content validity and practical applicability of the guide. During the workshop, video recordings and written documents collected from participants were examined in detail by the researchers. Based on these analyses, the "Productive Generations Guide" was revised. Following the evaluations obtained from the workshop, the researchers prepared a preliminary guide for the pilot implementation phase.

To test the feasibility and effectiveness of the prepared guidebook, the research team conducted pilot implementations with 15 SLDs who did not participate in the main study. The pilot implementation lasted for 37 weeks, with one day per week dedicated to the research activities. During this process, the researchers closely examined students' understanding of and engagement with the activities presented in the guide. Throughout the activity-based pilot implementation, areas of the guide requiring improvement or modification were identified during each session, and necessary updates were made.

The guide's content consisted of a module covering beekeeping, cheesemaking, goose breeding, Kavlca wheat production, greenhouse cultivation, and cultural elements. Structured in a modular format, the guide provides conceptual knowledge and hands-on activities aimed at establishing the foundations of entrepreneurial skills for SLDs, organized into a weekly schedule. The module was developed based on themes from the science curriculum, specifically "reproduction, growth, and development in plants and animals". This approach ensured an interdisciplinary design and aimed to integrate scientific knowledge with the development of entrepreneurial competencies. The full implementation process of the PGP, based on the guidebook (Researcher 1, 2023). The PGP was implemented based on the guidebook and organized into a total of six modules (beekeeping, cheesemaking, goose breeding, Kavlca wheat production, greenhouse cultivation, and cultural elements). The program was conducted over a period of 37 weeks. In planning the program, care was taken to ensure that participating students' formal education was not disrupted; accordingly, activities were scheduled on weekends. Each weekend, students were transported from their homes via shuttle services to classrooms allocated by the researchers' affiliated university for this study. In these classrooms, both conceptual learning activities and hands-on practical work were conducted. In addition to classroom-based activities, observational and applied activities were carried out in various out-of-school learning environments. Necessary official permissions for fieldwork were obtained in advance, and support was secured from relevant institutions and organizations for the implementation sites. Furthermore, experts in the respective fields were consulted for guidance during each module. For example, in the "Cheesemaking" module, students visited a local, well-known dairy farm, where they observed and participated in the cheesemaking process under the guidance of experienced cheesemakers and entrepreneurs prominent in this field. When developing the module contents, the formation processes of the region-specific products were carefully considered. Accordingly, the implementation schedule of each module was aligned with the biological and agricultural development periods of the respective products. For instance, the "Goose Breeding" module was conducted between February and September, in accordance with the geese's life cycle, while the "Kavlca Wheat" module was scheduled from March to July, taking into account the sowing-to-harvest timeline of the wheat. This approach aimed to center the product's natural growth process in all modules, thereby

strengthening both conceptual learning and practical experience. The overall structure of the program revealed an interconnected and complementary sequence across the module. Each module included numerous activities designed to enable students to acquire both conceptual knowledge and practical skills. The implementation stages and sample content of the “Goose Breeding” module (Researcher 2 & Researcher 3, 2023) within the PGP are presented in Table 1. Detailed content for the other module is provided in the guidebook, published by a specialized publisher.

Table 1

The PGP goose farming module implementation plan

<i>Week</i>	<i>Activity Name</i>	<i>Acquisitions</i>
1	Nature Means the Future	Understands the importance of animals and plants in their geography.
	The Life of the Caucasian Goose That Lays Golden Eggs	Understands the basic processes of reproduction, growth, and development of a goose.
	Secrets of Growing Geese	Understands the basic processes of feeding and caring for a goose's health.
	Master of the Geese	
2		Understands the differences between a goose and other poultry.
	Which egg is mine?	Records observation notes on the living conditions of a goose.
	What Have I Seen? What Do I Know?	Records observation notes on a goose's eggs and goose chicks.
	I am Creating a Poster Based on What I See!	Asks curious questions and notes their experiences through an interview with the owner of a goose farm.
	Where Goose Life Begins	They realize that they are a part of their environment based on their observations.
3	Nature and Life	Gives examples of the interactions between living and non-living things in their environment.
		Understands the basic information about the living conditions of a goose.
	The Caucasian Goose	Asks curious questions and notes their experiences through an interview with the owner of a goose farm.
4	To Exist or Not to Exist	Discusses the positive and negative aspects of the interaction between humans and nature.
		Understands the basic information about goose products.
	What can I do?	Experiences the processing of goose meat.
	Do not let it ruin my taste!	They realize that they are a part of their environment based on their observations.
	Our Caucasian goose is our legacy to the future.	They realize that they are a part of their environment based on their observations.
	Protecting nature and preserving the Caucasian goose for generations.	Discusses the positive and negative aspects of the interaction between humans and nature.
5		Gives examples of interactions between living and non-living things in their environment.
	I am doing my dream job.	Designs a business plan based on a chosen business idea related to digging.
	I love my Caucasian geese.	Promotes and markets digging-related products.
	Young Caucasian goose breeders poster competition	

One of the activities included in the Goose Farming module is the game-based activity Secrets

of My Growing Geese, which aims to provide SLDs with conceptual knowledge about the feeding habits of geese throughout their developmental stages (see Appendix 1). The Entrepreneurship Planning Worksheet was also used to help students develop their entrepreneurial skills by applying their conceptual knowledge (see Appendix 2). The PGP includes various in-class and out-of-class student activities, observations, and practices. Sample visuals related to these activities are presented in Appendix 3.

3.4. Data Collection

In this study, the data collection instrument used was a scenario-based entrepreneurship skills interview form. The interview form was developed by the researchers and consists of a scenario and nine open-ended questions for each local product context. The scenarios were prepared based on the modules of beekeeping, cheesemaking, goose breeding, Kavılca wheat production, greenhouse cultivation, and cultural elements. During the development of the interview form, particular attention was paid to the learning outcomes included in the science and social studies curricula. For social studies, the focus was on the economic activities in the students' local environment, the professions that develop in connection with these activities, and investment and marketing content suitable for Türkiye's geographical conditions. In terms of science education, emphasis was placed on topics forming the conceptual foundation of entrepreneurial ideas, such as "reproduction, growth, and development in plants and animals". The interview form aimed to explore how SLDs structured their entrepreneurial skills and interpreted their entrepreneurial approaches across the six modules (beekeeping, Kavılca wheat, greenhouse, goose farming, cheesemaking, and cultural elements). To this end, a framework consisting of nine open-ended questions was designed, with scenarios linked to each question for each context. Nine indicators were considered for assessing entrepreneurial skills: *generating a business idea (E1); identifying potential customers (E2); determining customer access channels (E3); drawing, writing, or describing a workflow (E4); defining staff duties and responsibilities (E5); calculating product costs (E6); calculating product profit (E7); marketing the product (E8); and presenting the product (E9)*. The scenarios for all modules were diversified in content but standardized in structure across modules. This approach ensured that students could consistently express their thoughts regarding the same entrepreneurial indicators across different production contexts. Examples of the final versions of a question from the interview form related to beekeeping are as follows:

Beekeeping is an important source of income for many families. Many products can be obtained from beekeeping, and a lot of money can be earned from these products. Let's imagine that you want to start a business related to beekeeping in the future.

- What kind of business would you do? Why?
- Can you explain the steps you would take from producing your products to selling them?
- To whom would you sell your products? Why?
- Imagine you are a beekeeper. Who would work with you in this business?
- What would you spend money on in this business?
- How would you understand whether you are making a profit or not?
- How would you decide the price of your products?
- What would you pay attention to when selling your products?
- How would you promote your products to your customers? Can you explain?

During the development of the interview form, a scenario and question list were first prepared for each context to represent the entrepreneurial skill indicators. While developing this data collection instrument, the scenarios and questions were designed using sentence structures and clear language that SLDs could easily comprehend. The validity and reliability of the interview form were ensured by obtaining feedback from both field experts and students. For this purpose, the scenarios and questions for each context were evaluated by six faculty members from different universities with expertise in assessment and evaluation, including two special education experts,

two science education experts, one guidance and psychological counseling expert, and one language education specialist. In particular, based on feedback from special education experts indicating that SLDs more easily comprehend “short and concise written texts,” the scenarios and questions were both shortened and linguistically simplified. A pilot application of the interview form was conducted with four SLDs who did not participate in the main study. During this process, questions that students had difficulty understanding were revised, and the expressions were made simpler, more direct, and more relatable to the students’ daily experiences. Following these adjustments, the interview form was determined to be appropriate and reliable in terms of both content and application. In the main study, individual pre- and post-interviews were conducted with each student under the supervision of the school guidance counselor. All interviews were audio-recorded, with each session lasting approximately 60–80 minutes. The aim was to obtain maximum qualitative data, ensuring that students felt comfortable and safe during the sessions. Interviews were scheduled so as not to disrupt core lesson hours, based on recommendations from the school guidance counselors. Throughout the interview process, careful attention was paid to the emotional and psychological boundaries of the SLDs. Interviews were planned considering the students’ attention spans and psychological state; sessions were paused when students appeared tired or bored and resumed when they felt ready. Each student’s interviews were conducted across six different contexts (beekeeping, cheesemaking, goose farming, Kavilca wheat, greenhouse, and cultural elements) on separate but consecutive days. However, the repetition of similar questions across different contexts sometimes led to attention fatigue or boredom in some students. In such cases, the interviewer employed empathetic communication to conduct the process flexibly according to the student’s needs. All data collected during the study were stored in accordance with confidentiality and ethical principles, analyzed solely for scientific purposes, and were not shared with any third parties.

3.5. Data Analysis

The pre- and post-test interview data of the SLDs were first transcribed by the researchers, and the accuracy of the transcripts was verified. After this process was completed, the entire dataset underwent a descriptive analysis procedure (Saldana, 2014). The results obtained from the analysis were supported with illustrative excerpts from the student interviews. To maintain the confidentiality of the data, each participant was assigned a unique code, such as S1 and S2. To ensure the reliability of the data analysis, the interview data were independently evaluated by two researchers, and the results were compared. The participants’ responses were discussed in terms of agreement and disagreement. The reliability coefficient was calculated using the formula proposed by Miles and Huberman (1994) [(Reliability = Agreements / (Agreements + Disagreements))]. Based on this calculation, the reliability of the study was determined to be 92%. According to Miles and Huberman (1994), a reliability level above 70% is considered sufficient to establish the trustworthiness of the research. This procedure ensured that the data analysis was conducted free from biases and potential misinterpretations, using a shared evaluative perspective. The following techniques were employed to analyze the entrepreneurial skill levels of SLDs before and after the implementation of the PGP.

- The Wilcoxon Signed-Rank Test for related samples was used to examine the significance of differences between test scores.
- Descriptive analysis was conducted to compare the pre- and post-test mean scores for entrepreneurial skills related to the products.
- Descriptive analysis was conducted to compare the pre- and post-test mean scores in terms of entrepreneurial indicators.
- Descriptive analysis was conducted to compare the number of students at each entrepreneurial skill level in the pre- and post-tests for the products.
- Descriptive analysis was conducted to compare the number of students at each skill level in the pre- and post-tests in terms of entrepreneurial indicators.

Entrepreneurial skill scores of SLDs were calculated for each context (beekeeping, cheesemaking, goose farming, Kavılca wheat, greenhouse, and cultural elements) before and after the implementation of the PGP, both in terms of each context and the specific entrepreneurial indicators. The researchers developed three separate rubrics to analyze the interview data. The use of these rubrics was critical for clearly identifying which entrepreneurial indicators and contexts students were strong in, as well as which skills required further practice. Expert opinions were obtained from two educators specializing in assessment and evaluation in special education during the preparation of the rubrics. To test the reliability of data analysis for each rubric, pilot studies were conducted. In this process, data collected from five SLDs who were not included in the main study sample were analyzed using the same rubrics by one researcher and an independent evaluator. The results indicated that all three rubrics achieved over 90% consistency, demonstrating high reliability for analysis. Accordingly, the rubric presented in Table 4 was prepared to evaluate students' development in each context with respect to the nine entrepreneurial indicators (learning outcomes). In Rubric 1, the minimum possible score for each indicator in a given context was 0, and the maximum was 18. Since the PGP consists of six modules (beekeeping, cheesemaking, goose farming, Kavılca wheat, greenhouse, and cultural elements), a student could achieve a maximum total score of 108 points across all contexts on the entrepreneurial skills interview form. To examine the significance of differences between pre- and post-program entrepreneurial skill scores of SLDs, the scores obtained from Rubric 1 were used in the Wilcoxon Signed-Rank Test for related samples. For this purpose, each student's pre- and post-interview responses were independently scored by two researchers using the rubric. Full agreement was achieved between evaluators. For the Wilcoxon Signed-Rank Test, total scores for each student were calculated across the six contexts. These totals represent the sum of scores for the nine entrepreneurial indicators in each context. For example, a student coded as S7 received a total pre interview score of 26 (goose farming: 3, greenhouse: 4, Kavılca wheat: 4, beekeeping: 5, cheesemaking: 5 and cultural elements: 5) and a post interview score of 45 (goose farming: 8, greenhouse: 7, Kavılca wheat: 7, beekeeping: 8, cheesemaking: 8 and cultural elements: 7).

For the descriptive analysis comparing pre- and post-test average scores for each context, the mean of the total scores obtained by the students from Rubric 1 (see Appendix 4) for the entrepreneurial skill indicators within that context was used. For example, in the "Goose farming" context, the average pre-test score of the students was 2.71 (total Goose farming score / total number of students = 46/17), whereas the post-test average was 7 (total Goose farming score / total number of students = 119/17). This procedure was applied to all contexts. The pre- and post-test scores for each context were analyzed descriptively and presented in graphical form. For the descriptive analysis comparing pre- and post-test scores in terms of entrepreneurial indicators, the mean of the total scores obtained by students across all contexts for each indicator was used. For instance, for the indicator "Generates Business Idea (EI1)," the pre-test average across all contexts was 3.17 (total score for the indicator across all contexts / total number of students = 54/17), whereas the post-test average was 5.82 (total score for the indicator across all contexts / total number of students = 99/17). The pre- and post-test mean scores for each entrepreneurial indicator were analyzed descriptively and presented graphically.

Rubric 2, presented in Appendix 5, was used to determine the entrepreneurial skill levels of students with LD corresponding to the scores they received for each context in Rubric 1. This rubric proved highly useful for identifying the level of students' entrepreneurial skills and highlighting areas for further development. Rubric 2 defines the entrepreneurial skill levels for each context within a 0-18 point range and a three-tier structure: Beginner, Intermediate, and Advanced. A descriptive analysis was conducted to compare the number of students at each entrepreneurial skill level before and after the intervention for each context. For example, student S9 received a total score of 4 across all entrepreneurial indicators in the "Beekeeping" context before the program, corresponding to the "Beginner Level (0-6 points)" according to Rubric 2. Following participation in the PGP, the student's post-intervention score increased to 9, elevating

their entrepreneurial skill level in the “Beekeeping” context to the “Intermediate Level (7-12 points)”. For all students, the entrepreneurial skill levels for each context were calculated in this manner, and the pre- and post-intervention statuses were described and presented in graphical form.

For the descriptive analysis comparing the number of students at each skill level in terms of entrepreneurial indicators before and after the intervention, Rubric 3 (see Appendix 6) was used. This rubric was employed to determine the skill level corresponding to the total scores that each student obtained across all contexts for each entrepreneurial indicator. Rubric 3 defines the skill levels for each entrepreneurial indicator within a 0-18 point range and a three-tier structure: Beginner, Intermediate, and Advanced. For example, student S14 received a total score of 2 across all contexts for the indicator “Calculates product costs (EI5)” before the program, corresponding to the “Beginner Level (0-6 points)” according to Rubric 3. Following participation in the PGP, the student’s post-intervention score increased to 5. Although there was improvement, the student’s skill level for this indicator remained at the “Beginner Level (0-6 points)”. For all students, the skill levels for each indicator were calculated in this manner, and the pre- and post-intervention statuses were described and presented in graphical form. The reliability of the data analysis in this study was ensured through confirmability, allowing an independent coder to reach the same results. To establish inter-rater reliability, another evaluator independently scored 30% of the dataset. The consistency between the researchers and the independent evaluator exceeded 90%, indicating high reliability in the analysis. Subsequently, the two researchers independently scored all the data using the rubrics within the defined analytical framework. For the very few scoring discrepancies that arose, a re-evaluation was conducted, and full consensus was reached for all cases.

4. Results

This section presents the results regarding the significance of the differences between the pre- and post-intervention entrepreneurial skill scores of SLDs, the comparison of average entrepreneurial skill scores across products, the comparison of average scores in terms of entrepreneurial indicators, the comparison of the number of students according to product-based entrepreneurial skill levels, and the comparison of the number of students according to skill levels for each entrepreneurial indicator.

Table 2

Wilcoxon signed-rank test results for pre and post intervention entrepreneurial skills test scores of SLDs

<i>Post-test-Pretest</i>	<i>n</i>	<i>Average Rank</i>	<i>Rank Total</i>	<i>z</i>	<i>p</i>
Negative Rank	0 ^a	.00	.00	3.623*	<.001
Positive Rank	17 ^b	9.00	153.00		
Equal	0 ^c				

Note. Post-test < Pretest b. Post-test > Pretest c. Post-test = Pretest *Based on negative ranks

The Wilcoxon Signed-Rank Test results regarding whether the entrepreneurial skills of SLDs showed a significant difference before and after the intervention are presented in Table 2. The analysis results indicate a significant difference between the pre- and post-intervention scores of the students on the entrepreneurial skills test ($z = 3.62, p < .05$). Considering the mean ranks and sums of the difference scores, it is observed that this difference favors the post-test, i.e., the scores increased after the intervention. These results suggest that the implemented program had a significant effect on improving the students’ entrepreneurial skills. The comparison of pre- and post-test mean scores for the entrepreneurial themes of SLDs is illustrated in Figure 1.

Figure 1

Comparison of Pre and Post-test Mean Scores of SLDs Entrepreneurial Skills Across Contexts

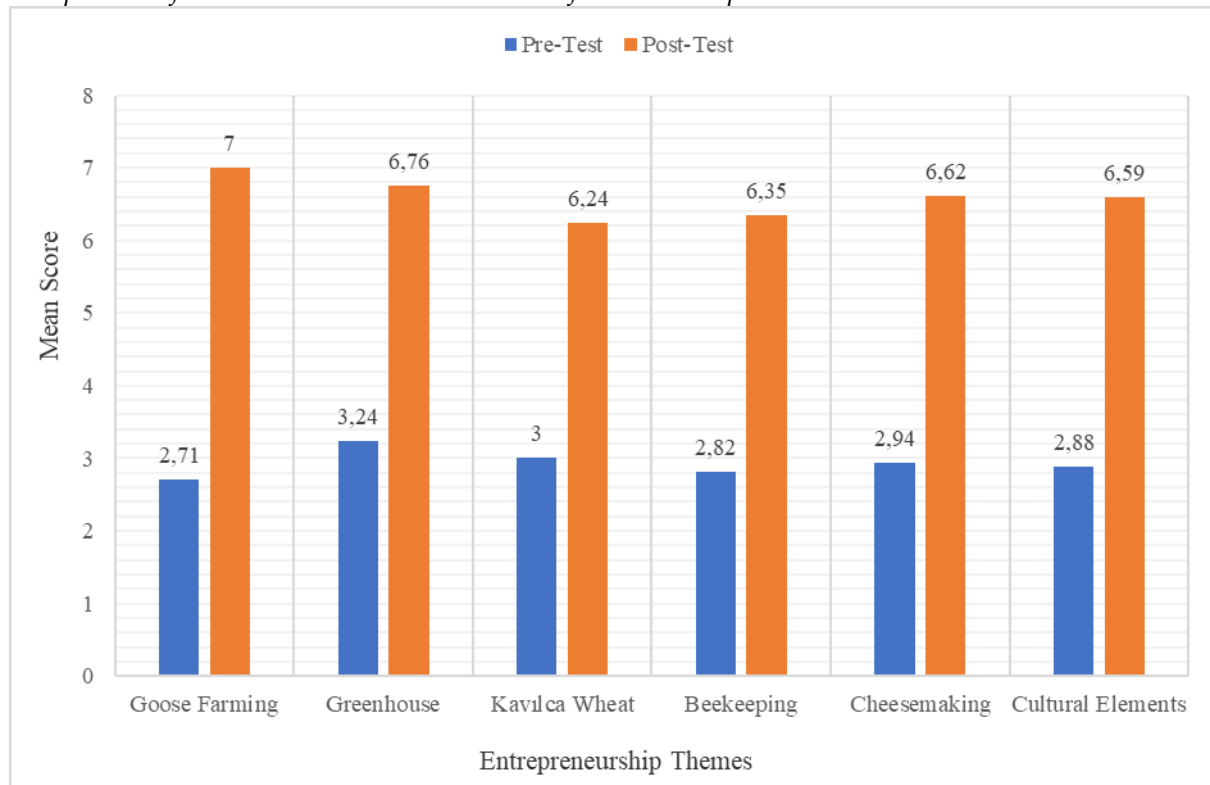
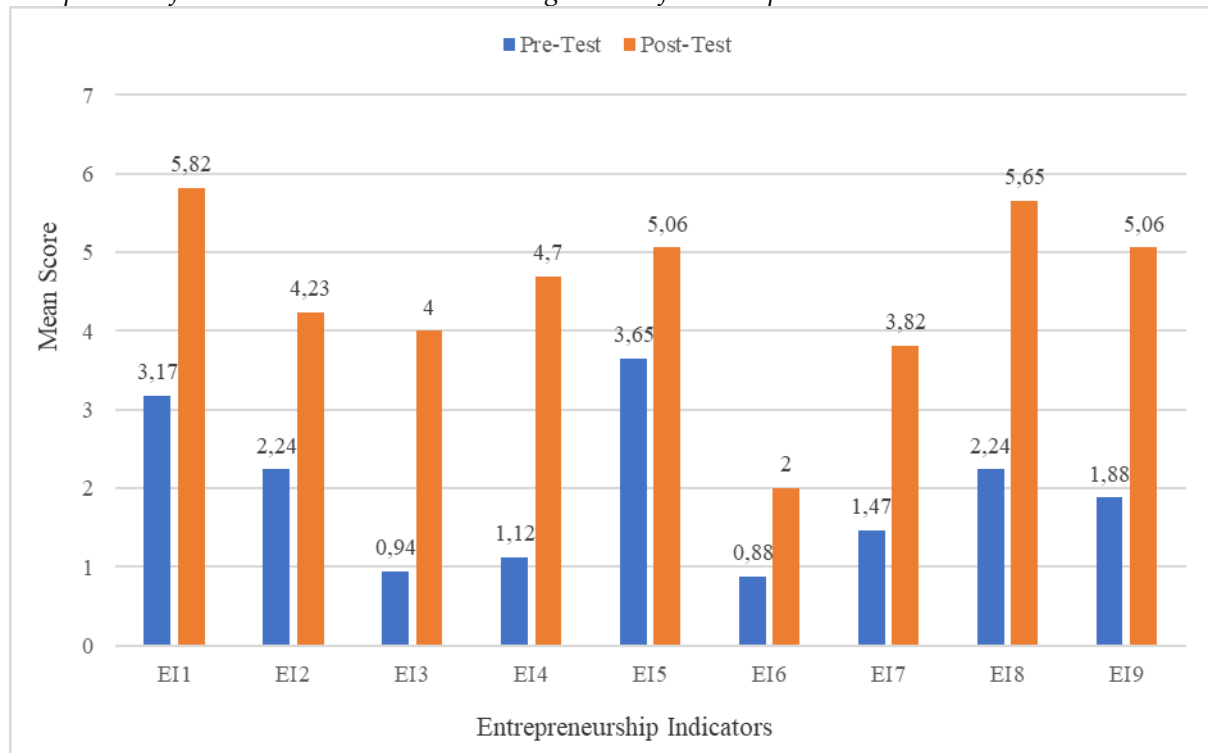


Figure 1 presents the comparison of SLDs pre- and post-test average scores across six entrepreneurial themes (Goose Farming, Greenhouse, Kavilca Wheat, Beekeeping, Cheesemaking, and Cultural Elements). The results indicate a significant increase in all themes following the implementation of the program. The group mean score increased from 2.93 in the pre-test to 6.59 in the post-test, representing a gain of +3.66 points. The highest post-test mean was observed in the Goose Farming theme, which also showed the greatest absolute improvement. These results suggest that the program provided consistent, moderate gains across all themes. Additionally, the results demonstrate that the implemented program had a significant effect on enhancing students' entrepreneurial skills related to the local products of their region. The comparison of SLDs' pre- and post-test mean scores for entrepreneurial indicators is presented in Figure 2.

Figure 2 presents a comparison of SLDs' pre- and post-test average scores for the nine entrepreneurial indicators (EI1-EI9). The analysis results show that the overall average increased from 1.95 to 4.48 (+2.53) after the implementation of the program. The results indicate that students' average scores across all entrepreneurial indicators significantly improved following the program. In particular, the highest post-test averages were observed in EI1 (Stating the business idea), EI8 (Establishing a product sales policy), EI5 (Identifying business expenses), and EI9 (Establishing a marketing policy). The greatest improvement was recorded for EI4 (Defining the work team). While EI1 (Stating the business idea) had the highest average in the post-test, EI6 (Calculating the business's profit and loss) remained relatively the lowest. These results suggest that although there were notable gains in content knowledge and strategic planning indicators, progress in financial accounting (EI6) was more limited. Overall, the results indicate that the implemented program had a significant positive effect on enhancing students' entrepreneurial skills related to the local products of their own region. The comparison of pre- and post-test student numbers by skill levels for SLDs' entrepreneurial themes is presented in Figure 3.

Figure 2

Comparison of SLDs Pre and Post-test Average Scores for Entrepreneurial Indicators



Note. Entrepreneurship Indicator (EI): EI1 (Stating the business idea); EI2 (Describing the business workflow); EI3 (Identifying potential customers); EI4 (Defining the work team); EI5 (Identifying business expenses); EI6 (Calculating the business's profit and loss); EI7 (Determining the prices of products in the business); EI8 (Establishing a product sales policy) and EI9 (Establishing a marketing policy)

Figure 3

Comparison of the Number of Students by Skill Levels in SLDs Entrepreneurial Themes Before and After the Program

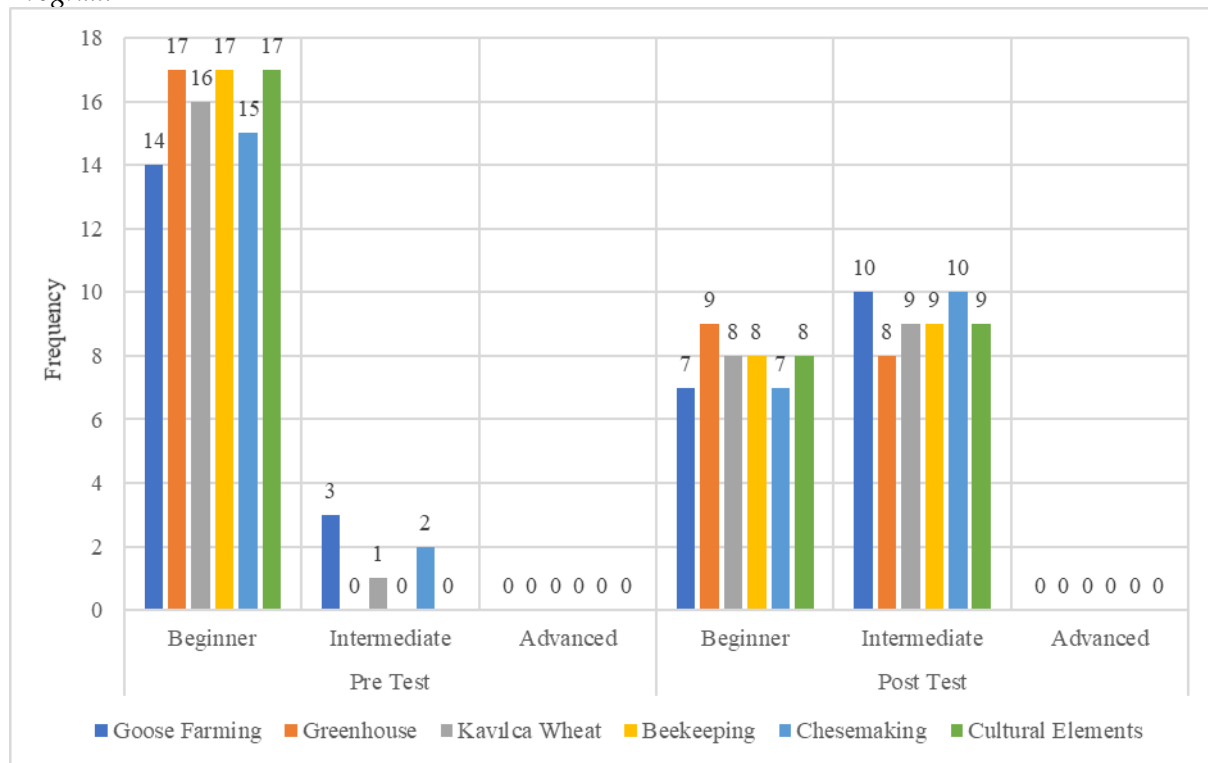


Figure 3 illustrates the changes in the distribution of SLDs across themes. The analysis results indicate that, before the program, the majority of students remained at the “Beginner” level for all entrepreneurial themes. After the program, however, most students advanced to the “Intermediate” level across all themes. The results show a significant decrease in the number of students at the “Beginner” level (–7 to –9 range) and a corresponding increase in students reaching the “Intermediate” level, while no student achieved the “Advanced” level in any theme. For example, in the Beekeeping and Cultural Elements themes, the number of students at the “Beginner” level decreased by 9, while the “Intermediate” level increased by nine students. This indicates that the program was effective in elevating skill levels in a short period, though advanced competencies had not yet been attained. Furthermore, no student has reached the advanced level of entrepreneurial skills. These results suggest that while the program significantly improved students’ entrepreneurial skills related to local products in their region, there remains a need to develop the program content further. Figure 4 presents the comparison of the number of students by skill levels for SLDs’ entrepreneurial indicators before and after the program.

Figure 4

Comparison of the Number of Students by Skill Levels for SLDs Entrepreneurial Indicators in Pre and Post-tests

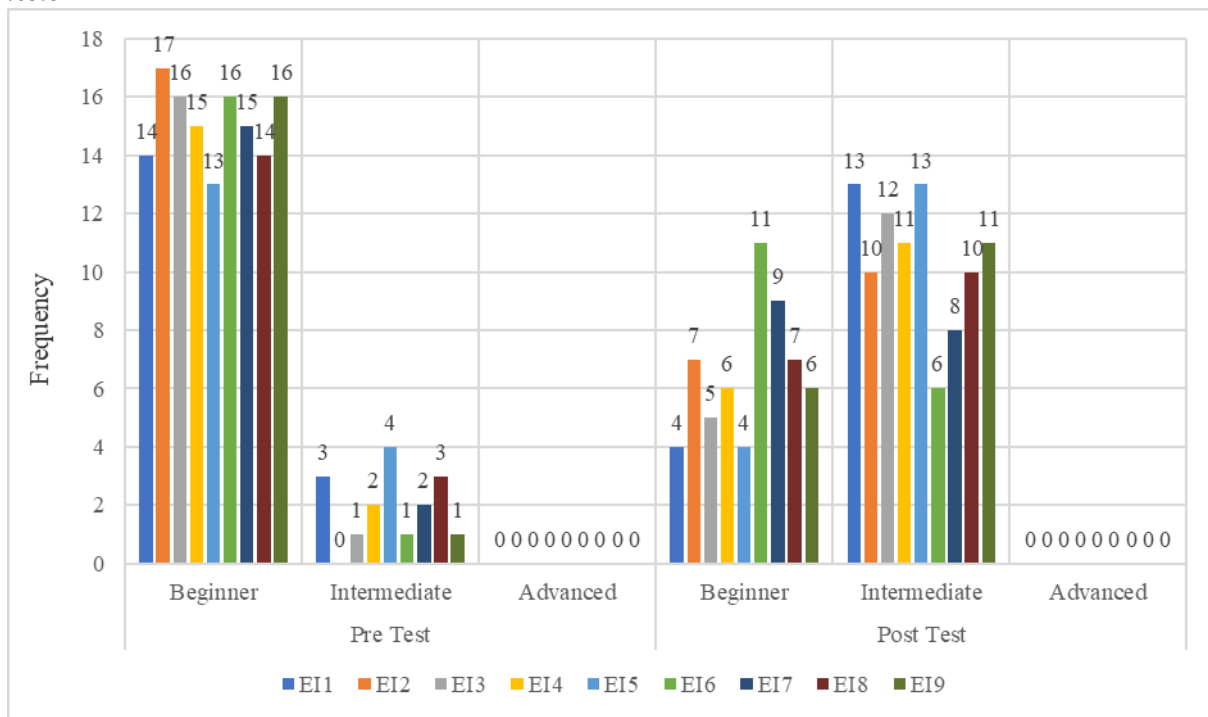


Figure 4 presents the distribution of SLDs’ skill levels across the entrepreneurial indicators (EI1-EI9) for the examined themes. The analysis results indicate that, before the implementation, the vast majority of students were at the beginner level for all entrepreneurial indicators. After the program, most students progressed to the intermediate level across all indicators. The most notable improvement was observed in EI3 (Beginner 16→5, Intermediate 1→12, Advanced 0), while EI1, EI2, and EI9 also showed shifts of approximately 10 students. The smallest progress occurred in EI6 (Beginner 16→11, Intermediate 1→6, Advanced 0). The absence of students reaching the advanced level in any indicator suggests that while intermediate-level skills improved, higher-level financial and strategic competencies may require a longer-term intervention. These results imply that the implemented program had a significant impact on enhancing students’ entrepreneurial indicators related to local products in their region, while also highlighting the need for further development of the program content.

5. Discussion

This study is significant in demonstrating the educational and social value of a program designed to enhance the entrepreneurial skills of SLDs by integrating local cultural and economic elements. The results indicate that SLDs who participated in the 28-week PGP showed significant improvements in their entrepreneurial skills. Structuring the program around different themes, such as beekeeping, cheesemaking, goose farming, Kavılca wheat, greenhouse, and cultural elements, allowed students to gain experiences across diverse areas, contributing to a holistic development of their entrepreneurial competencies. Statistical analyses revealed a significant difference between the pre-test and post-test scores on the entrepreneurial skills assessment, with positive ranks favoring the post-test. This suggests that students' knowledge and skill levels improved during the program. The results indicate that the program's content (local production-based activities) and method (experiential, hands-on learning) actively engaged students and contributed substantially to the development of their entrepreneurial skills. Participation in local production-based activities enabled students to enhance their knowledge and skills through applied learning. Literature also frequently emphasizes that SLDs benefit more from concrete and experiential learning processes (Smith & Rayfield, 2019; Vos et al., 2019). This underscores that long-term, hands-on education can impact essential life skills such as entrepreneurship for SLDs. The study's results align with previous research. For instance, Arumugam (2022) reported that applied entrepreneurship education for SLDs positively influenced their understanding of creating and initiating business opportunities. In this context, our study contributes to the understanding that such programs can promote social inclusion and facilitate the integration of individuals with special needs into the community.

The results also indicate that after the program, students demonstrated a significant increase in entrepreneurial skills across all local product themes (goose farming, greenhouse, Kavılca wheat, beekeeping, cheesemaking, and cultural elements). This suggests that entrepreneurial skills can be developed in SLDs and supports the effectiveness of such educational programs. Notably, the highest improvement was observed in the "Goose Farming" theme. This may be attributed to students' high interest in goose farming activities, the concreteness and observable outcomes of these activities (e.g., eggs, meat, care), the suitability of tasks to students' levels, and the opportunity to take direct responsibility. The theme may also have been easier for students to relate to due to prior experience or familiarity. Furthermore, as a local production activity, goose farming is tangible and comprehensible, which likely facilitated the development of entrepreneurial skills in this area. Factors such as program content, connection to local communities, and the practical relevance of activities in students' daily lives are valuable for understanding skill development. Research indicates that structured, concrete, and applied work processes are particularly effective for SLDs (Florio et al., 2025). Significant improvements observed across other product themes suggest that the program's content was balanced and comprehensive. The multi-thematic structure of the program allowed students to practice skills in different contexts, further supporting their development. Participation in production processes related to the local environment and cultural values contributed significantly to developing life skills based on entrepreneurship. Indeed, SLDs benefit more from hands-on, experiential, and production-oriented learning processes within their immediate environment (Umar & Rashid, 2019). Therefore, the meaningful acquisitions achieved through the PGP suggest that such programs should be systematically and widely implemented in special education. Literature supports the effectiveness of entrepreneurship programs in enhancing these students' competencies. For instance, Leko et al. (2021) and Uluçınar and Dinç (2021) found that thematic programs, particularly those rooted in practical and local cultural contexts, promote more lasting and effective learning. These results align with the current study, showing that SLDs can develop entrepreneurial skills not only through theoretical knowledge but also via practical and concrete themes. Research consistently highlights that hands-on and experiential learning is particularly effective for students with special needs (Umar et al., 2019). Such programs are important in

enabling students to connect with their local culture and integrate learning into their daily lives.

The results indicate that the SLDs' scores on entrepreneurial indicators showed significant increases after the program. Particularly, the highest post-test averages were observed for EI1 (Stating the business idea), EI8 (Establishing a product sales policy), EI5 (Identifying business expenses), and EI9 (Establishing a marketing policy), highlighting substantial development in students' abilities to generate business ideas and engage in basic strategic planning. The improvement in students' knowledge and skills regarding product sales strategies equips them with essential competencies for successful participation in commercial activities. Indicators such as expense calculation and marketing strategy are fundamental for survival and success in the entrepreneurial world. Progress in these areas demonstrates that students gained a deeper understanding of business creation processes, suggesting that the program significantly supported conceptual skills such as planning and business model development. Moreover, the program appears to have strengthened students' core idea-generation abilities, a finding supported by existing literature (Hewes, 2020). Conversely, the largest improvement was observed in EI4 (Defining the work team), indicating that students initially had lower awareness of teamwork and task distribution, and that these skills developed considerably during the program. This emphasizes that structured, applied interventions can effectively enhance social interaction and communication skills in SLDs (Ali et al., 2024). However, the post-test average for EI6 (Calculating the business's profit and loss) remained relatively low compared to other indicators, suggesting that financial literacy and numerical processing skills developed more slowly. This implies that abstract, mathematically oriented skills may require additional support and repetition for SLDs. For such skills, visual aids, gamified applications, or individualized teaching strategies may be necessary to facilitate learning. Overall, the results suggest that students responded highly to more conceptual and creative entrepreneurial skills, such as idea generation and product/marketing strategy development, while gains in numerically oriented skills were more limited. Literature also highlights that students with special needs benefit more from social, communication, and task-sharing skills in entrepreneurship education, while areas requiring numerical computation need concrete, individualized learning materials (Güven Akdeniz et al., 2022; Hobri et al., 2021). These results underscore the importance of differentiating the content of entrepreneurship education according to student characteristics and providing additional instructional support and continuity, particularly in areas such as financial accounting.

The research results indicate that before the program, the majority of students were at the "beginner" level across all local production themes. After the program, a significant portion of these students progressed to the "intermediate" level. Notably, there was a marked increase in the number of students advancing from "beginner" to "intermediate" in the Beekeeping and Cultural Elements themes. However, an important observation is that no students reached the "advanced" level. While students achieved intermediate competency, the absence of higher-level development suggests potential barriers or structural limitations within the program. The post-program predominance of intermediate-level skills indicates that students acquired foundational knowledge and competencies in entrepreneurship but still face challenges in attaining more advanced skills. This suggests that although students made progress in their learning processes, they require additional opportunities for skill enhancement. The results imply that while the program is effective in facilitating initial and intermediate skill acquisition, the existing duration and content may be insufficient to fully develop advanced entrepreneurial competencies. Achieving higher-level skills likely requires not only core application activities but also longer-term, individualized, and multi-layered learning environments. The successful transition of students to the intermediate level demonstrates the program's efficacy, whereas the inability to reach the advanced level highlights its limitations. Entrepreneurship, particularly for SLDs, is a multidimensional skill that must be developed through gradual, repetitive learning processes (Mustapha et al., 2022). Therefore, programs aiming to foster advanced competencies should adopt more comprehensive, continuous, and individualized educational strategies. Literature supports

this view, indicating that developing advanced entrepreneurial skills in SLDs is feasible but generally requires extended time and specialized instructional strategies (Logan, 2009).

Another result of the study indicates that, before the PGP, the majority of students were at the “beginner” level across all entrepreneurship indicators. After the program, there was a significant increase in students progressing to the “intermediate” level. Notably, in the EI3 indicator (identifying potential customers), the transition from beginner to intermediate was particularly high, suggesting that students gained more concrete competencies in key entrepreneurial components such as market analysis and customer awareness. Similarly, substantial level shifts were observed in EI1 (stating the business idea), EI2 (describing the workflow), and EI9 (establishing marketing policies), indicating progress in strategy formulation and planning skills. These developments highlight that the program’s hands-on structure contributed to students’ ability to conceptualize and operationalize entrepreneurial thinking. Comparable results have been reported by Kert et al. (2022). While many indicators showed advancement from beginner to intermediate levels, the most limited progress was observed in EI6 (calculating profit and loss). The number of students leaving the beginner level in this indicator decreased by only five, indicating that areas with high cognitive load, such as financial literacy and accounting, require additional support. This demonstrates that not all dimensions of entrepreneurship skills develop at the same pace and that indicators requiring numerical reasoning and abstraction necessitate longer-term and individualized instructional strategies. This finding aligns with general trends reported in the literature (Soares et al., 2018). Another notable observation is that no students reached the “advanced” level in any of the entrepreneurship indicators. This suggests that, to achieve advanced-level competencies across all indicators, longer-term, phased, and in-depth content is needed. Given the high cognitive complexity of indicators such as EI6, EI7, and EI9, the limited progress in these areas is understandable. However, it also underscores the need for modular and flexible program structures to ensure that entrepreneurship education effectively reaches all students. The predominance of students at the intermediate level implies that the program successfully established foundational skills, but additional interventions or alternative strategies are necessary for attaining higher-level competencies, which indicates that the development of entrepreneurship skills may require more time, support, or varied learning approaches. Overall, these results suggest that the PGP is effective in developing basic and intermediate entrepreneurial skills, but the current duration and instructional strategies may be insufficient for cultivating more complex cognitive skills. The results emphasize the importance of structuring entrepreneurship education for students with special needs in a phased manner and supporting advanced-level areas such as strategy, finance, and decision-making through extended and targeted interventions.

6. Conclusion

This study has demonstrated that the PGP is effective in enhancing the entrepreneurial skills of SLDs. The significant difference observed between pre- and post-program test scores indicates that hands-on, locally-based educational approaches can enhance entrepreneurial capacity in students with special needs. The results suggest that entrepreneurship programs integrated with local production and cultural values, and based on experiential learning, can meaningfully improve SLDs’ entrepreneurial competencies. However, the study also reveals that the program is limited in fostering advanced-level entrepreneurial competencies. One of the study’s strengths is its detailed examination of skill development through specific indicators, analyzing each indicator separately to capture nuanced progress. The research highlights that education programs incorporating concrete, locally-informed, and practical themes can effectively develop the entrepreneurial skills of SLDs.

7. Limitations

The fact that this study was conducted with a single group requires caution regarding the

generalizability of the results. It should be noted that similar programs applied to different student groups might yield different outcomes. Additionally, since only the short-term effects were examined in this study, there is uncertainty about the long-term sustainability of these skills. A broader, longitudinal follow-up study could provide insight into how these competencies develop over time.

8. Recommendation

It is recommended to expand local value-based, long-term, hands-on, and experience-oriented educational programs to support the entrepreneurial skills of SLDs. Future studies should examine the long-term effects of such programs. The program's insufficiency in fostering advanced-level skills indicates the need for additional intervention strategies. Future research can investigate the effectiveness of specialized strategies, methods, or materials aimed at helping students develop higher-level entrepreneurial skills. In this study, students showed greater interest and achieved more progress in the "Goose Farming" theme. Therefore, prioritizing themes structured according to students' interests may enhance the effectiveness of the learning process. Considering the differences observed in the development of sub-dimensions of entrepreneurial skills, it is recommended to use more concrete, visual, and individualized teaching materials, particularly to support numerical skills such as financial literacy and accounting. Entrepreneurship education, especially when considering the middle school age group, appears to encompass interdisciplinary studies. Therefore, education policymakers are advised to open specific entrepreneurship education courses for SLDs, covering areas such as science, mathematics, and social studies. It is recommended that these programs include hands-on activities that encourage students to explore business ideas based on the economic potential of the geographical region in which they live.

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Data availability: The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declaration of interest: The author declares no competing interests.

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Appendix 1. Sample Activities from the “Goose Farming” Module of the PGP

Activity 3: Secrets of My Growing Geese (Conceptual Knowledge Development)

In this activity, a game is designed to help students understand the feeding characteristics of geese. For this purpose, the teacher should use the following instructions:

Teacher: “Children, now we are going to play a game about how a goose feeds from the moment it hatches from the egg until it becomes an adult. I have here picture cards showing the six-month growth stages of a goose. I will give each of you one of these cards. I will also give you explanation cards describing how geese feed during each stage of their growth. By reading these information cards, you will match them with the picture cards I gave you so that each picture has a corresponding information card. Then, you will paste them side by side on the worksheets I will provide. You will have 2 minutes to complete the matching. The one who makes the most correct matches within this time will win our game.”

Directive: The cards showing the growth stages of a goose, the description cards defining its feeding characteristics, and the worksheet where the cards will be pasted are prepared by the teacher prior to the activity. In addition, the section on the worksheet displaying the months is arranged in a non-sequential, mixed order. At the end of the activity, the teacher shows the students the correct matches. A video about the feeding of geese is then shown, and the necessary explanations are provided. Afterwards, the teacher carries out the “Master of the Geese” activity to further support students’ understanding of the feeding process of geese.

Ne Ara Büyüdüm...
Oku, Kes, Yapıştır...

Küçük otlar, yemler ve su verilir. 1	Çayırarda ve meralarda otlatılır. 2	Kalmış yemek artıklarından verilir. 5
Yoncalar, mısır silajları ve yeşil otlar verilir. 3	Kalmış ve kurumuş ekmekler bir miktar su içerisinde ıslanarak verilir. 4	Arpa ile beslenerek et tutması sağlanır. 6

Appendix 2. Entrepreneurship Planning Worksheet**Activity 16: Doing My Dream Job – I Love My Geese (Entrepreneurship Skills Development)**

Teacher: “Hello, dear children, now I want you to imagine that you are starting your own business in goose farming. For this, you will use the worksheets below. Each of you will write down your own business idea and how you would implement it on these papers. After everyone finishes, we will talk together about your business ideas and what you aim to do. Good luck to all of you!”

Directive: Students design various business plans within the context of a business idea they choose related to goose farming. In this section, individual and family-participation activities are implemented to develop students’ entrepreneurial skills in goose farming. The activities planned for entrepreneurship focus on individual and family-supported practices centered on students’ business ideas and planning in goose farming. In addition, it is aimed that the business plans developed as a result of these entrepreneurship activities will be presented through posters at a festival planned at the end of the semester. Before students begin the entrepreneurship activities to generate business ideas, the teacher presents examples of success stories of individuals who have been successful in goose farming and shows related videos. Students’ questions and ideas are received. Afterwards, each student is asked to think about what kind of business they could establish in goose farming and to prepare the worksheets provided, titled “Doing My Dream Job: I Love My Geese” business plan. While students are writing down their own business ideas on the worksheets, the teacher provides guidance without intervening directly. Finally, the teacher reviews all students’ business plans.

Adı:.....



Hadi bakalım şimdi Kazcılığa ilişkin seçtiğin en önemli işi planlayacaksın...

İşine ait bir logo çiz veya resim yapıştır

İşinin adı:.....

Hangi ürünleri yapmayı düşünüyorsun?
.....
.....

Bu işte kimleri çalıştıracaksın?
.....
.....
.....

Ürünlerini kimlere satacaksın?
.....
.....
.....

Bu işinde çalıştıracağın kişiler ne iş yapar?
.....
.....
.....

Bu işi kurarken ve sonrasında masrafların neler olur?
.....
.....
.....

An example of the worksheets used to develop entrepreneurial skills. During the implementation process, five different business plan worksheets addressing entrepreneurship skill indicators were used.

Appendix 3. Images from the PGP lessons and student practical activities



Appendix 5. Entrepreneurial skill level scoring key

<i>Skill Level/Point</i>	<i>Feature</i>
Beginner (0-6 Points)	The student demonstrates minimal competence in entrepreneurship skills related to the context. The student is unable to demonstrate most of the entrepreneurship indicators for the context. For example, there are significant deficiencies in fundamental skills such as stating a business idea, defining the workflow, identifying customers, determining channels to reach customers, defining personnel roles, and calculating costs and profit. Alternatively, the student may not demonstrate these skills at all. Product promotion and marketing are either absent or very superficial.
Intermediate (7-12 Point)	The student is on the path to developing entrepreneurship skills related to the context, but needs to show further improvement. The student demonstrates some of the entrepreneurship indicators for the context, but has certain deficiencies. For example, they state a few simple and incomplete business ideas, define the workflow partially, and identify the target customer group in a limited way. There are some gaps in personnel roles. They identify only a single channel to reach customers. They make basic correct inferences in cost and profit calculations. In product promotion and marketing, they demonstrate only one or a limited effort.
Advanced (13-18 Point)	The student demonstrates high performance in context-related entrepreneurship skills. They effectively exhibit the majority of entrepreneurship indicators for the context. For example, they present a large number of innovative and context-appropriate business ideas. They define the workflow clearly, systematically, and comprehensively. All personnel roles and responsibilities are correctly and appropriately specified. The target customer group is accurately identified, and suitable channels for reaching them are determined. Cost and profit calculations are correct and detailed. Product promotion and marketing strategies are persuasive, diverse, and effective.

Appendix 6. Entrepreneurship indicators skill level scoring key (Rubric 3)

<i>Skill Level/Point</i>	<i>Feature</i>
Beginner (0-6 Points)	The student demonstrates limited skills regarding the entrepreneurship indicator. Ideas are superficial or incomplete, or there is no idea at all. (The business idea is vague or superficial; struggles to define the customer group; channels to reach customers are unclear; workflow is incomplete or vague; roles are unclear or missing; struggles to specify costs; cannot calculate profit or does so superficially; marketing methods are unclear; product presentation is insufficient.)
Intermediate (7-12 Point)	The student shows developing skills regarding the entrepreneurship indicator. The student presents basic, context-appropriate ideas, but some details are missing. (The business idea is clear but limited in detail; specifies the general customer group; indicates some channels for reaching customers; workflow is partially understandable and covers basic steps; identifies some roles but with limited detail; calculates basic costs partially; performs basic profit calculations; outlines basic marketing strategies and presents the product with general characteristics.)
Advanced (13-18 Point)	The student demonstrates advanced performance regarding the entrepreneurship indicator. Ideas are clear, concrete, effective, understandable, and persuasive. (The business idea is original, feasible, and detailed; defines the target customer group in detail; specifies effective and varied channels for reaching customers clearly; workflow is clear, organized, and logical; roles and responsibilities are clear, detailed, and functional; calculates costs accurately and in detail; calculates profit accurately, logically, and in detail; expresses effective and diverse marketing methods and presents the product in a detailed, persuasive, and original way.)