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RESEARCH ARTICLE

BUSINESSES AS TOOLS FOR THE PROFESSIONAL DEVELOPMENT AND CAREER PLANNING OF VOCATIONAL TRAINING CENTER STUDENTS; THE INEGOL VOCATIONAL TRAINING AND GUIDANCE MODEL

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Abstract
The study was performed to identify the effects of İnegöl Vocational Education and Guidance Model, which was developed according to vocational education and career planning, on the level of information literacy, individual entrepreneurship, and creative thinking of students. This study was developed based on a pre-test-post-test single-group experimental design using quantitative techniques. The population of interest was 13 students who had enrolled in the Furniture and Decoration Department of a Vocational Education Center in the 2023-2024 academic year and were completing a course called Vocational Education at the Workplace. The Information Literacy Scale, Individual Entrepreneurship Scale and Marmara Creative Thinking Tendencies Scale were used to conduct data collection. The Information Literacy Scale, Individual Entrepreneurship Scale, and Marmara Creative Thinking Tendencies Scale were used as the instruments to collect data before and after the study of the experiment. The data distribution normality was checked prior to identifying the method of analysis. It was concluded that the Shapiro-Wilk statistic of the pretest and posttest data of the three scales exceeded.05 which meant that the three scales were all in the normality assumption. The analysis of data demonstrated that the applications that were introduced under the framework of the model enhanced the creative thinking, innovation, information literacy, and entrepreneurship abilities of students. In turn, it was noted that the İnegöl Vocational Education and Guidance Model elaborated and applied in the context of the current study proved helpful in terms of vocational skills and career planning of students.

Keywords: İnegöl vocational education and guidance model, career planning, vocational education, vocational guidance

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ARAŞTIRMA MAKALESİ

MESLEKİ EĞİTİM MERKEZİ ÖĞRENCİLERİNİN MESLEKİ GELİŞİMLERİNDE VE KARİYER PLANLAMALARINDA ARAÇ OLARAK İŞLETMELER; İNEGÖL MESLEKİ EĞİTİM VE REHBERLİK MODELİ

Öz

Bu araştırma, mesleki eğitim ve kariyer planlamaya yönelik geliştirilen, İnegöl Mesleki Eğitim ve Rehberlik Modeli'nin; öğrencilerin bilgi okuryazarlığı, bireysel girişimcilik ve yaratıcı düşünme becerileri üzerindeki etkisini belirlemek amacıyla gerçekleştirilmiştir. Nicel yöntem kullanılan bu çalışma, ön test-son test tek gruplu deneysel desene uygun tasarlanmıştır. Araştırmanın çalışma grubunu, 2023-2024 eğitim öğretim yılında bir Mesleki Eğitim Merkezi, Mobilya ve Dekorasyon Bölümü'nde öğrenimlerine devam eden ve İşyerinde Mesleki Eğitim Dersi alan 13 öğrenci oluşturmaktadır. Veriler deneysel çalışma öncesi ve sonrasında "Bilgi Okuryazarlığı Ölçeği, Bireysel Girişimcilik Ölçeği ve Marmara Yaratıcı Düşünme Eğilimleri Ölçeği" ile toplanmıştır. Analiz tekniğine karar vermeden önce verilerin normal dağılım durumu incelenmiştir. Yapılan inceleme sonucunda, kullanılan üç ölçeğin ön test ve son test verilerine ait Shapiro–Wilk değerlerinin .05'in üzerinde olduğu belirlenmiş; böylece tüm ölçeklerin normal dağılım varsayımını karşıladığı görülmüştür. Verilerin analizinde, yalnızca deney grubundan verilerin toplanması nedeniyle "ilişkili örneklemler t testi" kullanılmıştır. Veri analizi sonucunda, model kapsamında gerçekleştirilen uygulamaların öğrencilerin yaratıcı düşünme, yenilikçilik, bilgi okuryazarlığı ve girişimcilik becerilerini güçlendirdiği sonucuna ulaşılmıştır. Sonuç olarak bu çalışma kapsamında geliştirilen ve uygulanan İnegöl Mesleki Eğitim ve Rehberlik Modeli'nin öğrencilerin mesleki yeterliliklerine ve kariyer planlama süreçlerine faydalı olduğu görülmüştür.

Anahtar Kelimeler: İnegöl mesleki eğitim ve rehberlik modeli, kariyer planlama, mesleki eğitim, mesleki rehberlik

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INTRODUCTION

The furniture industry, being among the most significant stakeholders, the Turkish economy is experiencing a never-ending cycle of development and regeneration according to the contemporary problems and requirements, and its external trade, workforce, and entrepreneurial potential (Tuncel et al., 2017). The furniture market that is the larger part of the manufacturing sector of the forest products industry grows its share of impacting the global market through small, medium, and large-scale company programs in tandem with modern completion (STB, 2021). The furniture industry that still evolves according to the modern requirements has confronted a number of issues in adapting to innovation and technology (Rame et al, 2023). One of the issues that can be the foundation of these problems is the problem of skilled labor that affects not only the Turkish furniture sector but also other occupational groups all over the world. Professional ignorance and lack of skills causes the deterioration of the quality of services and products offered, poor company designs and projects, and direct financial losses (Červený et al., 2022; Karimova and Bashiru Jibril, 2024). Such issues may lead to the inability of the companies to continue their existence only in short-run.

It is clear that qualified labor force can be attained through the education of people (Ulay, 2011). Vocational education that has been in use since the Seljuk period, still persists today in the form of a number of types of schools and in-house training. This culture of ahilik that can lead to the formation of skilled workforce is currently being handled in the form of vocational and technical education which initiates in the secondary institutions. Vocational and technical education that still exists both in its formal and informal forms is scheduled to satisfy the requirements of the sectors and the nation, considering the interests, talents, and values of people in their moral and professional growth. Vocational education at the secondary level is offered in Turkey in Vocational Open High Schools, which are popular; and formal institutions, such as Vocational and Technical Anatolian High Schools, Multi-Program Anatolian High Schools, and Vocational Education Centers (Ministry of National Education [MEB], 2018). The nature of education that individuals pursue depending on their inclinations and competencies aligns with the type of vocational and technical education that institutions require in their endeavors to enhance their workforce, make them more competitive and provide them with better and quality services (Oz er, 2021). Nevertheless, such alignment is not good enough to address the current need. Vocational education, which is considered one of the most controversial in the education system, does not cover the requirement of a qualified workforce and cannot offer graduates with skills required on the market (Atik, 2018; Horuz, 2017).

Several measures have been implemented to enhance the correspondence between the business world and education concerning the core issues of vocational education and to equip the necessary skills needed by the business world (Özer, 2021). Application-oriented improvement of the programs in vocational education centers is one of these steps. Students in vocational education centers start their specialized training in the 9 th grade unlike in other education centers. This will enable the students to learn and master skills in a master-apprentice relationship in a duration of four-years. The fact that the student develops knowledge and skills through practical implementation in the workplace is not only advantageous in self-discovery but also in the ability of the master to provide the student with the right and quick feedback (MEB, 2018). But as the education offered in vocational training centers is taught according to the workplace-based model, the student will only be restricted to utilize the skills that his master has, establishing a constraint in the student. Traditional vocational education had masters who were in charge of knowledge and skills of the students and were capable of offering the skills needed in the profession. Nevertheless, it is observed today that the profession the student is trained in is not enough to equip and transfer 21 st century skills to the students (Özer, 2020). In addition, the centers have major deficiencies in the delivery of vocational guidance and career planning services. The literature on this topic has not identified any studies on the matter. This makes one

pose a big question mark on whether the chosen profession and a field of work are of interest, competence and values of a student.

The vocational training centers offer the students a chance to acquire some vocational and technical skills, but they fail to give students skills of the 21 st century as expected of a modern worker. The production industry requires employees who have not only the knowledge in vocation and technical sphere, but are also able to resolve the business issues, enhance the growth and development of the companies and take the word on themselves. This is exactly where it is required to have a range of skills training which is also compatible with the vocational education of the students and helps them to be active learners. In the context of this paper that seeks to meet these demands, a new model of vocational education application has been formulated where students have been provided with the skills of creativity, information literacy and entrepreneurship as needed in the industry of furniture decoration in the 21 st century.

The Purpose of the Research

This research will seek to establish how the model of vocational education and career planning, called İnegöl Vocational Education and Guidance Model, influences the skills of creative thinking, individual entrepreneurship, and information literacy of students. In this direction the following questions were answered:

1. Is there a significant difference in the creative thinking levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?
2. Is there a significant difference in the individual entrepreneurship levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?
3. Is there a significant difference in the information literacy levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?

METHODOLOGY

Research Model

This piece of research was designed using a quantitative research strategy and it adopted a pre-test- post test single-group experimental design. In this type of design, the post-test and pre-test scores difference are interpreted as the intervention effect (the İnegöl Vocational Education and Guidance Model, which was designed to address the vocational education and career planning) (İlhan and Gezer, 2021). In such a design, the measurements in the dependent variable are taken, pre-experiment (pre-test) and post-experiment (post-test); the measurements are recorded on the same subjects and using the same instruments. This design does not feature randomization or matching (Buyukturk, 2024). The information on the research design is included in Table 1.

Table 1. Research Design

Group	Pre-test	Application	Post-test	Number of Participants
Furniture and Decoration Department Students	Application of Scales (February 5-9, 2024)	Implementation of the İnegöl Vocational Education and Guidance Model (February 12-April 26, 2024)	Application of Scales (April 29-May 3, 2024)	13

Participants

The target population of the study that focuses on the development of a new model of vocational education and guidance is the working group that includes 13 students studying in the Furniture

and Decoration Department of a vocational learning institution of the Ministry of National Education throughout the spring of the 2023-2024 study year and taking the Vocational Education at the Workplace course.

Data Collection Tools

In the process of obtaining the study data, the Marmara Creative Thinking Tendencies Scale, the Individual Entrepreneurship Perception Scale, and the Information Literacy Scale were used. The Marmara Creative Thinking Tendencies Scale was developed by Özgenel and Çetin (2017) to measure creative thinking tendencies. The confirmatory factor analysis validated the structure which was elaborated by exploratory factor analysis and composed of 25 items and 6 factors. The scale form was designed according to 5-point Likert scale, and the answers of the participants were rated on a 5-point scale between 1=Never to 5=Always. The specified factors were called doubting, pursuing novelty, curiosity, self-discipline, courage, and flexibility. The scale describes 55.904 per cent of the total variance. The alpha of the scale was found to be 0.87. The statistical significance of the correlations between the factors was found and the correlation coefficient of the entire scale was also identified to be significant due to the test-retest application.

The Individual Entrepreneurship Perception Scale was developed by Yalçın İncik and Uzun (2017) to measure university students' perceptions of entrepreneurship. Within the scope of item analysis, correlation-based analyses were performed, and the relationship of each item with the scale was examined using the Pearson correlation coefficient. The results of the Exploratory Factor Analysis with the Varimax rotation technique showed that the structure was six-dimensional and comprised 31 items. The last version of the scale was used on a sample size of 96 students who had and had not studied an entrepreneurship course, class or seminar in their course studies; the results carried were analyzed through the t-test of independent groups and the difference between the means was tested to be significant. The t-test analysis revealed that there was a statistically significant difference in the individual entrepreneurship perception score between the students who had undertaken either entrepreneurship related courses, classes or seminars during their studies and those who had not. The items that comprised the 31-item scale were rated on a five-point Likert-type scale that had a strong disagree statement at one end and a strong agree statement at the other end.

The Information Literacy Scale was developed by Adıgüzel (2011) to assess teacher candidates' approaches to the processes of acquiring and structuring information. The Kaiser–Meyer–Olkin (KMO) test was applied to evaluate the suitability of the data obtained from the first prototype of the 38-item scale for factor analysis, and the test result was found to be .850. Because of the factor analysis, it eliminated 9 inappropriate items of the scale and retained 29 items with factors loading of between.460 and .796 in the scale. The scale had a four factor structure after rotation. These variables were referred to as Identifying information needs (8 items), Accessing information (11 items), Using information (5 items) and Ethical and legal regulations in using information (5 items).

Data Collection Process

The İnegöl Vocational Education and Guidance Model describes the competency areas to which the model aspires to get the students in terms of its general and specific outcomes. Under this umbrella, the overall aim of the program is to bring up individuals who have the ability to think creatively, have attained information literacy skills and can also venture in entrepreneurial tasks. With this overall goal in mind, the specific goals of the program are that the individual should learn to be conscious of ways of accessing information and to be able to use this information effectively, to be able to be able to select and evaluate information sources correctly, to be able to classify the information that the individual obtains and apply this information accordingly to its end, and to be able to create discussion environments through sharing such information. Also, the program has a target of developing students who embrace those learning models that help to reinforce the ability to think creatively, able to form various approaches to happenings, and is capable of coming

up with creative outputs or approaches. Moreover, developing people who are aware of the entrepreneurship, who are willing to take part in the entrepreneurial activity, and who can take part in the entrepreneurial process, approach research-oriented, is one of the key goals of the program as well.

A model is simply described in brief as a person or a thing that deserves to be emulated. In program development research, a model refers to the proposal of some sort of educational program in the context of the educational philosophies and program development methods (Erişen, 1998; cited in Yakar, 2016). Philosophy also gives a basic guideline upon which programs are designed and interpreted. Contemporary curricula aims and objectives are mainly grounded in philosophical ideas as well as modes of thinking (Burgh, 2002). The Inegöl Vocational Education and Guidance Model was created in a comprehensive manner, and based on the philosophical trends of utilitarianism and existentialism, the philosophy was used to interpret and manifest, which is to serve as a basis of multidimensional growth required by the students to further their vocational education. In addition, the model was designed and actualized based on the definition of Open Curriculum proposed by Harris. Harris says that Open Curriculum is all written program material that has been deliberately and consciously designed to be learned, proclaimed and made available (Alıcı, 2012).

According to Mikkonen, Pylväs, Rintala, Nokelainen, and Postareff (2017), workplace guidance in vocational learning is founded on working processes of the participants and influences the process of shared learning due to frequent interaction and exchanging of information. The skills training of students in this model allows them to acquire professional knowledge and skills, and concurrently, they can undertake orientations and analyses associated with career planning in the activities, termed as Vocational Guidance and Career Planning. The general components of the model include the headings of objectives, content, learning-teaching process and evaluation. The model was designed by setting goals first as per the philosophical approaches that are adopted followed by development of content and the learning-teaching process were set. The evaluation stage was conducted at the end of this process in accordance with the goals.

The implemented training model was the İnegel Vocational Education and Guidance Model in a manufacturing and integrated company that is actively operating within the limits of İnegel and has 384 hours of practical training. The learning teaching phase skills training, the vocational guidance and career planning parts are represented in Figure 2, and the implementation procedures and contents in each of the headings are distributed in Table 2 and Table 3.

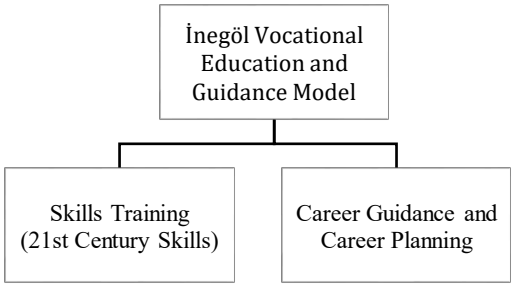

Figure. 2. *İnegöl vocational education and guidance model*

Skills Training

Each week of the skills training was outlined in detail and applied in an operating business. The implementation of the applications was done by a Child Development and Education Specialist and Psychological Counselor and Guidance Teacher who are specialists in their respective fields. The skills training was done in a classroom setup that was designed in the business in alignment

with the practical training of the students. Table 2 presents the learning-teaching process and content based on the 21 st century skills and the İnegöl Vocational Education and Guidance Model.

Table 2. Skill training and content

Week	Learning-Teaching Process	Content
Week 1	Learning and Information Literacy	• Explanation of learning methods and active learning, • The impact of information literacy on active learning and the characteristics of information literate individuals, • The path to knowledge is the teaching of the model and the way the model is applied through example.
Week 2	Assessing Information Literacy Skills and Introduction to Creative Thinking	• Submission and evaluation of homework assignments based on the path to knowledge model, • Introducing creative thinking, providing examples that require creative thinking, and interpreting creative products.
Week 3	Design Thinking Model	• Introduction to the design-focused thinking model and explanation of its application with examples, • Design-focused thinking model for individual product-service-method production, • Solving problems using a design-focused thinking model.
Week 4	SCAMPER Technique	• Introduction to the Scamper Technique, • Solving the given problem situations using the Scamper Technique, • Developing the products created by students using the Scamper Technique.
Week 5	Entrepreneurship	• Promotion of entrepreneurship, entrepreneurial ideas, and examples of innovation, • Steps in entrepreneurship, methods for developing business ideas, preparing an entrepreneurial business plan.
Week 6	Entrepreneurship and Intrapreneurship	• Successful and unsuccessful entrepreneurial activities, • The concept of internal entrepreneurship, • Creating internal startup initiatives within the company.
Week 7	Starting a Business	• Commercializing the designed products, • Creating companies and company departments with the business model canvas, • Creating departments, defining departmental responsibilities, working collaboratively, and conducting oversight activities.
Week 8	Information Literacy, Entrepreneurship and Creative Thinking	• Implementation of activities related to transferred skills, • Creating design programs, • The importance of group and individual task awareness.

Vocational Guidance and Career Planning Process

In the context of the study, at this point, the students that dealt with applications in the sphere of furniture and decoration were offered to arrange analyses on the subfields of their major upon finishing their training on skills. Planning and guidance sessions were done in 7 days depending

on their interests, preferences and abilities amounting to 28 hours. Table 3 lists the competencies which were to be gained by the students in the career guidance and career planning process.

Table 3. The Career Guidance and Career Planning Process and Its Content

Instruction	Day	Content
Career Guidance and Career Planning	Day 1	• Self-Awareness. Awareness of one's interests and abilities.
	Day 2	• The importance of choosing a career based on interests and abilities.
	Day 3	• The interests, knowledge, and skills required by the furniture profession. • Sharing knowledge and experience from experienced individuals regarding important considerations in production processes.
	Day 4	• Sharing knowledge and experience from experienced individuals regarding key considerations in the basic and raw material process.
	Day 5	• Sharing of knowledge and experience from experienced individuals regarding important considerations in cutting and CNC processes.
	Day 6	• Sharing knowledge and experience from experienced individuals regarding important considerations in surface treatment and assembly line processes.
	Day 7	• Sharing knowledge and experience from experienced individuals regarding important considerations in varnishing, painting, quality control, and packaging processes. • General assessment, guidance, furniture and decoration section sub-area selection.

Data Analysis

The normal distribution of the data was considered before arriving at the decision of the analysis technique to employ during the study analysis procedure. Shapiro-Wilk values of the pre test and post test data of the three scales to be used in the research were determined in this context. In Table 4, the values are calculated.

Table 4. Normal Distribution Data for Scales

Tests	Scales	Shapiro-Wilk		
		Statistic	df	p
Pre-tests	The Marmara Creative Thinking	,949	13	,58
	Individual Entrepreneurship Perception	,912	13	,19
	The Information Literacy	,983	13	,99
Post-tests	The Marmara Creative Thinking	,957	13	,71
	Individual Entrepreneurship Perception	,946	13	,53
	The Information Literacy	,944	13	,50

Shapiro-Wilk test is a popular test that is much preferred when the sample size is small (De Souza et al., 2023). Based on this, the p-values of the pre-test and post-test data of each scale were determined to be greater than the p-value of greater than or equal to ".05). This means that the pre-test and post-test outcomes of the entire scales were normally distributed (Habibzadeh, 2024) and that the requirements of using parametric tests were achieved. Here, as data were gathered exclusively among the experimental group, the significance of difference in scores between the pre-test and results of the students at the post-test was calculated with the help of the paired samples t-test.

Ethics Statement
This study was conducted in accordance with the principles of research and publication ethics. Ethical approval was granted by the Ethics Committee of Social and Human Sciences Research and Publication at Bursa Uludağ University (Date: 25.10.2024, Decision No: 2024-10).

FINDINGS

This part of the paper gives the conclusions of the data analysis, and the conclusions of the research questions are represented in tables.

Findings Related to the First Sub-Problem of the Study
Table 5, prepared in line with the sub-problem of the study, "Is there a significant difference between the creative thinking levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?", contains the findings reached in the study.

Table 5. Marmara Creative Thinking Scale Pre-Test-Post-Test Data

Marmara Creative Thinking	N	X̄	S	t	p
Pre-test	13	3,33	,402	-2,636	,02
Post-test	13	3,81	,553		

The results of the sub-problem of the research, which is, Is there a significant difference between the levels of creative thinking of the students in the vocational training centers before and after skills training? were compared with the help of the paired samples t-test. The pre-test average score of the students in terms of their level of creative thinking was X=3.33 (S=.402) and the post-test average score was X=3.81 (S=.553). The obtained t(12)-= -2.636; p=.02 value produced by the analysis shows that a statistically significant difference in the level of creative thinking of students before and after skills training exists. This result shows that the model is useful in enhancing the level of creative thinking among the students.

Findings Related to the Second Sub-Problem of the Study
Findings related to the sub-question of the study, "Is there a significant difference between the individual entrepreneurship levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?" are presented in Table 6.

Table 6. Individual Entrepreneurship Perception Scale Pre-Test-Post-Test Data

Individual Entrepreneurship Perception	N	X̄	S	t	p
Pre-test	13	2,93	1,086	-2,395	,03
Post-test	13	3,59	,671		

The paired samples t-test was used to analyze the data obtained to the sub-problem of the study, If there is a significant difference between the individual entrepreneurship perceptions of students attending vocational training centers before and after skills training? The mean pre-test score of the perceptions of individual entrepreneurship among students was equal to X=2.93 (S=1.086), and the mean post-test score was equal to X=3.59 (S=.671). Based on the result of the analysis, t(12) = -2.395; p=0.03 was obtained. The outcome of this shows that the differences in the perceptions of the students on individual entrepreneurship are statistically significant in pre-skills training and post-skills training. Such a finding shows that the model positively impacts on the perceptions of students regarding individual entrepreneurship.

Findings Related to the Third Sub-Problem of the Study

The findings regarding the results obtained in line with the sub-problem of the study, "Is there a significant difference between the information literacy levels of students continuing their education at the vocational training center before and after their participation in the İnegöl Vocational Training and Guidance Model?", are explained in Table 7.

Table 7. Information Literacy Scale Pre-Test and Post-Test Data

Information Literacy	N	X̄	S	t	p
Pre-test	13	3,52	,433	-3,702	,00
Post-test	13	3,98	,316		

When examining the data involved in the sub-problem of the study, whether there was a significant difference between the level of information literacy of students attending vocational training centers before and after skills training, paired samples t-test method was deployed. The pre-test result with respect to information literacy level of the students gave us X (mean), S (standard deviation): X=3.52 (S=.433) and X=3.98 (S=.316). The result of the analysis was t(12) =-3.702; p<.05. This finding shows that, the level of information literacy of the students was statistically different at the pre and post training of skills. It has been found that the model yields conclusive impact in enhancing information literacy skills of students.

RESULTS AND DISCUSSION

The information society of today requires people who are not only able to hold modern knowledge, but also one who is able to think inventively, communicate, convert information into economic value and also one who is able to apply it (Sağocak, Yilmaz and Karahan, 2013). In this aspect, education policies should be designed in such a way that they not only prepare people with knowledge but also enable them to be involved in the workforce efficiently. The Vocational Education Center program implemented by the Ministry of National Education aims to accelerate graduates' transition into working life, train qualified workers needed by the sectors, and ensure that students outside of formal education gain professional skills and become productive members of society (Özkan & Göktürk, 2023). Thus, local implications of such policies and objectives should be explored. Applications conducted to identify the impacts of the same on the creative thinking levels, individual entrepreneurship perceptions and level of information literacy of the students attending the vocational training centers in the framework of the İnegöl Vocational Education and Guidance Model have given meaningful results. Their use of creativity skills is important in ensuring that vocational high school graduates are involved in the industrial workforce (Samani, Sunwinarti, Putra, Rahmadian & Rohman, 2019). The development of creative thinking has been viewed as a reason that leads to a rise in prosperity of a country in terms of students (Chen, Huang and Yun Su, 2021). In the same manner, the literature stresses that creativity concerns not only academic and social achievement, but also has a close relationship with professional orientations and processes of career growth in individuals (Lim & Jyung, 2010). The current research shows that the identified improvement in the capacity to think creatively proves that the model helps students acquire various perspectives. On the same note, it was found that applications that are based on creative thinking promote the propensity of students in generating various ideas, innovating, and coming up with creative products (Li, Chen, and Kang, 2021; Nelmira, Efi, Elida, Adriani, and Sandra, 2022; Satriawati, Nurlaela, Munoto, and Tri Rijanto, 2020). To alleviate unemployment, it is possible that a person should not be dependent only on paid work, but have the capacity to generate jobs by being an entrepreneur (Hidayatulloh & Ashoumi, 2022). Entrepreneurs have been regarded as a dynamic power in economic development because of their contribution to the success of a business by creating jobs (Bayrakdar, 2011). This active force is grounded on the tendency of entrepreneurship, formed by the internal drive of persons and their skills of imagination (Konak, 2025). This research indicates that the provided results in the individual perception of students towards entrepreneurship reveal

the efficiency of the implemented model in teaching the essential skills in professional life. The finding is in line with other comparable findings in the literature. In fact, the study conducted by Aydin (2015) found out that vocational education did instill entrepreneurial competencies and that entrepreneurial potential was high among students who were exposed to entrepreneurship education. In the same way, the study conducted by Hidayatulloh and Ashoumi (2022) also revealed the existence of a positive relationship between entrepreneurship education and entrepreneurial intention of students. One of the basic competences that students of vocational high schools would need to have in the information age is information literacy (Kankam, 2023). Information literate students are able to make their contributions towards economic development processes. The present day technological working life is characterized by a high tempo of information streams, and the information literacy demands the quality use of information, its consideration based on the criteria of reliability, and the capacity to differentiate right and wrong (Reddy, Sharma, Chaudhary, Lolohea and Tamath, 2022). The results of the study statistically indicate that there is a significant difference between the level of information literacy of the students before and after achieving skills training. This observation indicates that, skills training that was conducted as part of the research enhanced access and utilization of information among students. The outcome is in line with other findings in the literature that indicate that different educational programs that are enacted and prescribed as part of information literacy make students more proficient (Bernarte, Dellova, and Yanyan, 2023; McPherson and Dubé, 2016). In this regard, the beneficial influence of skills training on information literacy competencies can be deemed as a valuable finding that must be taken into consideration when it comes to policies and practices regarding the curriculums of vocational education. Lastly, the limitation that the study sample was a small population of students might pose some constraints to the external validity of the results. This restriction is especially significant because it shows that the results cannot be directly applied to the vocational education centers that might differ in terms of their socioeconomic, cultural, or institutional categories. Hence, it is considered that the subsequent studies that will use larger and more heterogeneous samples in various territories will help to gain more powerful and generalized conclusions concerning the effectiveness of the model.

RECOMMENDATIONS

As this study is confined to a sample group and a time period, it is advisable that such studies be conducted in the future in more diverse and widespread samples, to find the effectiveness of such models. Moreover, it is reckoned that comparative analysis of the vocational education programs, which were used in other sectors, would be beneficial contributions to the literature. Besides that, it is believed that the work of the qualitative or quantitative research, which examines various varieties of literacy and 21st-century skills, and incorporates student involvement in different spheres of vocational and technical high schools would also have an input on the literature.

Researchers' Contribution Rate

All authors contributed equally to the work.

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Conflict of Interest

The authors declare that there is no conflict of interest in the conduct of the research.

Ethics Statement

This study was conducted in accordance with the principles of research and publication ethics. Ethical approval was granted by the Ethics Committee of Social and Human Sciences Research and Publication at Bursa Uludağ University (Date: 25.10.2024, Decision No: 2024-10).

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