



**TECHNIUM**  
SOCIAL SCIENCES JOURNAL

**Vol. 82/2026**  
**A New Decade for Social Changes**



**PLUS**  
**COMMUNICATION P**



International  
Communication & PR

## **Hands-on Competencies and Social-Based Skills of Practicum Trainees: Basis for Students' Skills Enhancement**

**Adrian F. Francisco**

[adrian.francisco@antiquespride.edu.ph](mailto:adrian.francisco@antiquespride.edu.ph)

**Abstract.** Preparing students for employment so they can contribute to society has been one of the paramount goals of higher education institutions. In fact, in the levelling of state colleges and universities (SUCs) in the Philippines, productivity has always been measured by the statistics of graduates who are gainfully employed (CHED-DBM Joint Circular NO. 1, 2016). This study attempts to ascertain whether there is a relationship between the social-based skills and hands-on competency skills of the practicum trainees of the University of Antique. The descriptive-correlational method was employed in the study. A total of 106 practicum trainees were purposively selected and served as the study's subjects, who were evaluated by their supervisors using two validated researcher-made instruments. The data obtained were analyzed and interpreted using the mean, the Kruskal-Wallis test, the Mann-Whitney U test, and Spearman's rho. The findings revealed that, taken as a whole, the practicum trainees of the University of Antique have excellent social skills. Regardless of their academic performance, students have the same excellent social-based skills level. They have different levels of social-based skills, though when classified according to their course. The trainees from the BSELT, BSIT, and BSHRM programs have excellent social-based skills, while the trainees from BSIE, BSAT, and BSET have very satisfactory social-based skills. As for family income, students from families with low, average, and high monthly income have excellent social-based skills. As to holders and non-holders of National Certificates, the study found that holders have excellent social-based skills. In contrast, non-holders have very satisfactory social-based skills. The study concluded that the practicum trainees of the University of Antique have outstanding performance in social-based skills. They have very good interpersonal and communication skills and need to deal with the people they come into contact with in their work. The University's practicum trainees are spot-on. They possess the competencies required to perform the job to the fullest.

**Keywords:** Hands-on Competencies, Social-based skills, trainees' skills enhancement

### **1.0 Introduction**

Preparing students for employment so they can contribute to society has been one of the paramount goals of higher education institutions. In fact, in the levelling of state colleges and universities (SUCs) in the Philippines, productivity has always been measured by the statistics of graduates who are gainfully employed (CHED-DBM Joint Circular NO. 1, 2016).

Employers acknowledge the rules of colleges and universities in preparing students for the real world [1]. Harvey [2] stressed the employer-higher education interface and the duty of colleges and universities to produce graduates needed by the industries. Students are prepared

for such direction by the curriculum of their programs. The instructions they received, along with co-curricular activities, are ways they are honed for employment.

They are likewise exposed to experiential learning activities that help them understand the nitty-gritty of the job, aiming to develop their hands-on competency. These classroom and experiential learning activities are meant to develop communication skills, critical thinking and analytical reasoning, application of knowledge and skills in real-world settings, complex problem-solving and analysis, ethical decision-making, and other skills necessary in the workplace [3].

The skills required of graduates and that should be developed in institutions of higher learning are two: hard skills, or hands-on competency skills, and social-based skills. The hands-on competencies are quantitative attributes that are necessary for graduates to meet the demands of the job and tend to involve technology and discipline-based knowledge [4,5]. In an institution of higher learning, a student's hard skills refer to the knowledge and occupational skills being honed. The ability of graduates to operate a machine, troubleshoot, and follow a procedure is an example of their hands-on competency.

The teaching of hands-on competency skills or hard skills usually begins with classroom instruction where knowledge and operational procedures are discussed. This is often followed by hands-on activities meant to apply and concretize the knowledge gained. The students' knowledge is often measured through tests, and their skills through assessment. Their knowledge and skills are then transmuted into grades that indicate how much they have learned and, possibly, how they will perform in their line of work. Today, however, grades are no longer considered by employers as the sole significant factor in employment. Today, aside from the hard skills, graduates are likewise expected to have great social-based skills [3].

Over the past decade, education stakeholders have emphasized the importance of teaching a set of non-academic attributes, such as communication, interaction, and problem-solving, often referred to as soft skills [6]. Chamorro-Premuzic et al. [7] defined soft skills as skills, abilities, and personal attributes that can be used across a wide range of work environments. Social-based skills are personal attributes that describe a person's ability to interact with others. They are known as "people skills" which complement hard skills to enhance individual relationships, job performance, and career prospects. It's often said that hard skills will get you an interview, but you need social-based skills to get and keep the job [8].

Unlike hard skills, which comprise a person's hands-on competency set and ability to perform certain functional tasks, social-based skills are interpersonal and broadly applicable across job titles and industries. Many social-based skills are tied to an individual's personality rather than any formal training. They are thus considered more difficult to develop than hard skills [9]. Together, hands-on competency and soft soft-skills make a graduate responsive to the needs of the workplace and should be developed among the students [10].

The University of Antique is home to many technology-based programs- the Bachelor of Science in Automotive Technology (BSAT), Electronics Technology (BSET), Electrical Technology (BSELT), Industrial Technology (BSIT), Hotel and Restaurant Management (BSHRM), and Bachelor of Science in Industrial Education (BSIE)- geared towards equipping the students with hands-on competency skills which industries demand. The curriculum of these programs is laden with provisions for developing hands-on competency skills. As such, assessment of students' hands-on competency is a paramount concern. While there are some classroom attempts to monitor subject-matter-specific skills, no program-wide assessment has been conducted to date.

The same is true with the assessment of students' social-based skills. While Magiera and Zawojewski [8] noted in their research that social-based skills should be developed, no systematic study has been conducted to measure students' social-based skills. Moreover, no attempt has been made to examine whether students' social skills have a direct relationship with their hands-on competency. Conscious of these gaps and driven by the desire to contribute to the University of Antique's vision of becoming a leading university in science and technology, this study was conducted.

### **1.1. Statements of the Problem**

This study aimed to determine the social-based skills and the hands-on competency skills of technology practicum trainees of the University of Antique as a basis for the outcomes-based program reforms. Specifically, this study sought to answer the following questions: (1) What is the social-based skills level of the trainees when they are taken as an entire group and when grouped according to academic performance, curricular program, family income, presence of TESDA National Certificate, and sex. (2) What is the hands-on competency skills of the trainees when they are taken as an entire group and when grouped as to academic performance, curricular program, family income, presence of TESDA National Certificate and sex; (3) Is there a significant difference in the social-based skills' level of the trainees when they are taken as an entire group and when grouped as to academic performance, curricular program, family income, presence of TESDA National Certificate and sex; (4) Is there a significant difference in the hands-on competency skills of the trainees when they are taken as an entire group and when grouped as to academic performance, curricular program, family income, presence of TESDA National Certificate and sex; (5) Is there a significant relationship between the social-based skills and the hands-on competency skills of the practicum trainees?

### **1.2. Theoretical Framework**

This research is anchored on the various learning theories. Foremost is Kurt Lewin's Topological theory [11]. This theory posits that forces are operating on the individual that move him, define him, and give him some degree of stability or substance. For Lewin, for change to take place, the total situation must be considered. If only one part of the situation is considered, a distorted picture is likely to result. Lewin viewed the psychological field as dynamic and in constant interaction with the individual. These fields of forces acting on the person are his inner psychological self and the outer psychological environment.

Lewin recognized that a person's behaviour and performance are determined by the forces acting on him. This study is anchored in this theory because the assessment of a student's readiness to engage in the workforce should examine the full range of factors or forces that determine their competence. The inner and outer fields of force likewise help determine the variables, adding complexity and relevance to the study. The study is also anchored in the Theory of Emotional Intelligence, which emphasizes emotion, managing human relations, understanding oneself, and the feelings of others [12].

This theory explains that success is not determined solely by one's intelligence quotient, but also by the strength of one's intrapersonal and interpersonal skills. This study also relies on Gardner's [13] theory of Multiple Intelligences. This theory holds that a person's intelligence is not limited to one or two aspects but spans eight domains, making every person a potential genius. These eight domains are linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, intrapersonal, interpersonal, and naturalistic intelligences [13]. This theory is relevant

to the study because a person's hands-on competencies are related to their intelligence in specific-subject domains. At the same time, social-based skills depend on a person's interpersonal and intrapersonal skills.

## 2.0 Methodology

This study utilized a quantitative research design, particularly the descriptive-comparative and correlational approaches. The selected methodology statistically identified a set of variables to address the theory-guided research problems and assumptions [14]. The descriptive approach examined the levels of Social-based skills and Hands-on Competency Skills of the Practicum Trainees, taken as a whole and grouped by academic performance, curricular program, family income, national certificate, and sex. Additionally, the comparative approach assessed differences in the level of Social-based skills among Practicum Trainees grouped by demographics. Lastly, the correlational approach determined the relationship between the Social-based skills and the Hands-on Competency Skills of the practicum trainees.

## 2.1 Respondents

The respondents in the study were the practicum trainees of the University of Antique, second-semester students in the academic year 2016-2017. They were grouped according to the following variables: academic performance, curricular program, family income, national certificate, and sex. The study intentionally sought practicum trainees from the University's technology-based programs and employed a purposive sampling technique. The practicum trainees whose supervisors were available were intentionally selected as the study's subjects.

**Table 1- Distribution of the respondents in terms of the number and percentage of the different variables of the study.**

Category	n	%
A. Entire Group	106	100
B. Academic Performance		
Outstanding	0	0
Very Satisfactory	4	4
Satisfactory	44	42
Good	58	55
Fair		
C. Curricular Program		
BSAT	11	10
BSELT	7	7
BSET	13	12
BSIT	14	13
BSHRM	42	40
BSIE	19	18
D. Family Income		
High	18	17
Average	41	39
Low	47	44
E. National Certificate		
Holder	49	46

Non-holder	57	54
F. Sex		
Male	53	50
Female	53	50

### 3.0 Results and Discussions

#### 3.1 Social-based skills of the Practicum Trainees

The social-based skills of the practicum trainees of the University of Antique were determined by computing the mean. Data showed that as an entire group, the social-based skills of the practicum trainees are excellent ( $X=4.36$ ). This indicates that the practicum trainees of the University of Antique have superior interpersonal and attitudinal skills in dealing with people in their assigned places.

When they are classified by academic performance, the results revealed that practicum trainees with good academic performance ( $X=4.40$ ), satisfactory academic performance ( $X=4.33$ ), and very satisfactory academic performance ( $X=4.21$ ) have excellent social-based skills. When they are classified according to curricular program, the result showed that the practicum trainees from the BSELT program posted the highest mean ( $X= 4.73$ ), followed by the BSHRM ( $X= 4.67$ ) and the BSIT ( $X=4.47$ ), which are described as excellent social-based skills.

The practicum trainees of BSIE ( $X=4.08$ ), BSET ( $X=3.93$ ), and BSAT ( $X=3.85$ ), on the other hand, have very satisfactory social-based skills. When they are classified by family income, the practicum trainees from all the groups, low ( $X=4.44$ ), average income ( $X=4.23$ ), and high income ( $X=4.38$ ) have excellent social-based skills. When classified as holders or non-holders of a national certificate, the study showed that holders have excellent social-based skills ( $X=4.63$ ). In contrast, non-holders have very satisfactory social-based skills ( $X=4.13$ ).

Finally, when classified as to sex, both the male ( $X=4.27$ ) and the female practicum trainees ( $X=4.46$ ) have excellent social-based skills. The females have posted the higher mean score. Table 2 presents the data.

**Table 2- Level of Soft Skill of the Practicum Trainees when taken as a Whole and when Grouped According to the Demographics.**

Category	M	Description
A. Entire Group	4.36	Excellent
B. Academic Performance		
Very Satisfactory	4.21	Excellent
Satisfactory	4.33	Excellent
Good	4.40	Excellent
C. Curricular Program		
BSAT	3.85	Very Satisfactory
BSET	3.93	Very Satisfactory
BSELT	4.73	Excellent
BSIT	4.48	Excellent
BSHRM	4.67	Excellent
BSIE	4.08	Very Satisfactory
D. Family Income		
High	4.38	Excellent
Average	4.27	Excellent

Low	4.44	Excellent
E. National Certificate Holder	4.63	Excellent
Non-holder	4.13	Very Satisfactory
F. Sex		
Male	4.28	Excellent
Female	4.46	Excellent

### 3.2 Hands-on Competency Skills of the Practicum Trainees

When taken as a whole, the hands-on competency skills of the University of Antique practicum trainees are excellent ( $X=4.52$ ). This suggests that the University's trainees have outstanding skills in fulfilling the competencies required for their work. When classified by academic performance, those with good performance have posted the highest mean, described as excellent ( $X=4.53$ ), followed by those with satisfactory grades ( $X=4.38$ ) and those with very satisfactory performance ( $X=4.31$ ), all excellent in hands-on competency skills.

As to the curricular program, those enrolled in the BSELT ( $X=4.95$ ), BSHRM ( $X=4.73$ ), and BSIT ( $X=4.70$ ) have excellent hands-on competency skills. In contrast, those enrolled in the BSAT ( $X=4.13$ ), BSIE ( $X=4.04$ ), and BSET ( $X=3.96$ ) have very satisfactory hands-on competency skills. When grouped by family income, the trainees with low ( $X=4.59$ ), average ( $X=4.35$ ), and high ( $X=4.39$ ) income all have excellent hands-on competency skills, with those in the lower-income group posting the highest mean.

When classified by whether they hold National Certificates, the study shows that those with NC have excellent hands-on competency skills ( $X=4.75$ ). At the same time, those without NC have a lower mean ( $X=4.22$ ) but are also described as excellent hands-on competency skills. When grouped by sex, both males ( $X=4.41$ ) and females ( $X=4.52$ ) have excellent hands-on competency. Table 3 presents the data.

**Table 3- Level of Hands-on Competency Skills of the Practicum Trainees when taken as a Whole and when Grouped According to the Demographics**

Category	M	Description
A. Entire Group	4.46	Excellent
B. Academic Performance		
Very Satisfactory	4.31	Excellent
Satisfactory	4.38	Excellent
Good	4.53	Excellent
C. Curricular Program		
BSAT	4.13	Very Satisfactory
BSET	3.96	Very Satisfactory
BSELT	4.95	Excellent
BSIT	4.70	Excellent
BSHRM	4.73	Excellent
BSIE	4.04	Very Satisfactory
D. Family Income		
High	4.39	Excellent
Average	4.35	Excellent
Low	4.59	Excellent
E. National Certificate		

Holder	4.75	Excellent
Non-holder	4.22	Excellent
F. Sex		
Male	4.41	Excellent
Female	4.52	Excellent

### 3.3 Significant Difference in the Level of Social-based skills of the Practicum Trainees When Grouped According to the Demographics.

As to Academic Performance. The Kruskal-Wallis test was used to determine whether there was a significant difference in students' softness across academic performance groups.

The result showed that there was no statistically significant difference in social-based skills among practicum trainees grouped by academic performance,  $H(2)=3.368, p>.05$ . Table 4 presents the data.

**Table 4- Kruskal-Wallis Result of the Significant Difference in the Social-based skills When the Practicum Trainees are Grouped by Academic Performance**

Academic Performance	Mean Rank	df	Chi Square	Sig	Statistical Decision
Very Satisfactory	38.63				
Satisfactory	48.68	2	3.368 <sup>ns</sup>	0.186	Do not Reject Ho
Good	58.18				

\* $p<.05$

As to the curricular program. The Kruskal-Wallis test was used to determine whether there was a significant difference in social-based skills among practicum trainees grouped by academic performance.

The result showed a significant difference in the social-based skills of the practicum trainees,  $H(5)=56.213, p<0.000$ ; thus, the null hypothesis is rejected. This suggests that students' social skills differ significantly across courses. This result seems to further the assertion of Walker et al. [15] that soft skills are affected by one's curricular program. Table 5 presents the data.

**Table 5- Kruskal-Wallis Result of the Significant Difference in the Social-based skills When the Practicum Trainees are Grouped by Curricular Program**

Curriculum Program	Mean Rank	df	Chi Square	Sig	Statistical Decision
BSAT	21.45				
BSELT	79.71				
BSET	22.31				
BSIT	55.21	5	56.213	.000*	Reject Ho
BSHRM	74.48				
BSIE	36.11				

\* $p<.05$

As to family income. The difference in the social-based skills of the students when grouped according to the family income was assessed using the Kruskal-Wallis Test. The result



of the study showed that there was no significant difference in social-based skills of the students when they were grouped according to family income,  $H(2)=7.029$ ,  $p<0.05$ ; thus, the null hypothesis is rejected. This shows that family income affects students' social skills. This finding confirms the findings of Hsin and Xei (2012) that individuals with high income are better at social-based skills. Table 6 presents the data.

**Table 6- Kruskal-Wallis Result in the Difference in Social-based Skills when the Practicum Trainees are grouped by Monthly Family Income**

Monthly Income	Mean Rank	df	Chi Square	Sig	Statistical Decision
Low	62.32				
Average	45.79	2	7.029	0.030*	Retain the Null Hypothesis
High	48.03				

\* $p<.05$

As to the national certificate. The difference in social-based skills among practicum trainees, whether holders or non-holders of a National Certificate, was tested using the Mann-Whitney U test.

The result showed that, with respect to the presence or absence of a National Certificate, there was a significant difference in the social-based skills of the trainees ( $U=556$ ,  $p<.05$ ); thus, the null hypothesis was rejected. This shows that trainees with a National Certificate have better social-based skills than those who do not have one. Table 7 presents the data.

**Table 7- U-test Results of the Significant Difference in the Social-based skills of the Practicum Trainees as to Whether They are Holders or Non-Holders of the National Certificate**

National Certificate	Mean Rank	U Value	Sig	Statistical Decision
Holder	70.65			
Non-holder	38.75	556	.000*	Reject Ho

\* $p<.05$

As to sex. When tested using the Mann-Whitney U test, the result showed that there is no significant difference in social-based skills between male and female trainees,  $U=1099$ ,  $p>.05$ ; thus, the null hypothesis is retained.

Sex is not a determinant of students' social skills level. This finding supports the claim of Camargo et al. [16] that sex is not a conclusive factor in determining the social-based skills of the students. Table 8 shows the data.

**Table 8- U-test Results of the Significant Difference in the Social-based skills of the Practicum Trainees as to Sex**

Sex	Mean Rank	U Value	Sig	Statistical Decision
Male	47.74			
Female	59.26	1099	.053	Do not reject Ho

\*p<.05

### 3.4 Significant Difference in the Level of Hands-on Competency Skills of the Practicum Trainees When they are Grouped According to the Demographics

As to the academic performance. When the significant difference in hands-on competency skills relative to academic performance was tested using the Kruskal-Wallis test, it was revealed that a significant difference existed,  $H(2)=9.472$ ,  $p<.05$ ; thus, the null hypothesis is rejected.

The hands-on competencies of the trainees differ significantly in relation to their academic performance. Table 9 presents the data.

**Table 9- Kruskal-Wallis Result of the Significant Difference in the Hands-on Competency Skill When the Practicum Trainees are Grouped by Academic Performance**

Academic Performance	Mean Rank	df	Chi Square	Sig	Statistical Decision
Very Satisfactory	35.50				
Satisfactory	44.34	2	9.742	0.009*	Reject Ho
Good	61.69				

\*p<.05

As to the Curricular Program. To test whether significant differences existed in the hands-on competency skills of the trainees when grouped by curricular program, the Kruskal-Wallis test was used.

The result showed that there was a significant difference in students' hands-on competency skills when grouped by curricular program,  $H(5)=54.417$ ,  $p<.05$ ; thus, the null hypothesis was rejected. This result is the same as that of Hsin and Sei (2012). Table 10 presents the data.

**Table 10-Kruskal-Wallis Result of the Significant Difference in the Hands-on Competency Skills When the Practicum Trainees are grouped according to the Curricular Program**

Curriculum Program	Mean Rank	df	Chi Square	Sig	Statistical Decision
BSAT	35.35				

BSELT	90.64				
BSET	21.62				
BSIT	67.18	5	54.42	.000*	Reject Ho
BSHRM	68.77				
BSIE	20.24				

\*p<.05

As to family income. To test whether the family's monthly income would affect students' hands-on competency skills, the Kruskal-Wallis test was used.

The result showed that there existed a significant difference in the hands-on competency skills of the students,  $H(2)=14.845$ ,  $p<.05$ , thus the null hypothesis is rejected. The study shows that while family income does not create a significant difference in social-based skills, it does in students' hands-on competency skills. Table 11 presents the data.

**Table 11- Kruskal-Wallis Result in the Difference in the Hands-on Competency Skills When the Practicum Trainees are Grouped by Monthly Family Income**

Monthly Income	Mean Rank	df	Chi Square	Sig	Statistical Decision
Low	66.22				
Average	42.77	2	14.84	0.001	Do not reject Ho
High	44.47				

\*p<.05

As to the national certificate. To test whether the presence or absence of the National Certificate would affect trainees' hands-on competency, the Mann-Whitney U test was used. The result showed that there was a significant difference in the hands-on competency skills of the trainees, depending on whether they had a National Certificate,  $U=603$ ,  $p<.05$ ; thus, the null hypothesis was rejected. Students with a TESDA National Certificate have stronger hands-on competency. Table 12 presents the data.

**Table 12- U-test Results of the Significant Difference in the Hands-on Competency Skills of the Practicum Trainees as to Whether They are Holders or Non-Holders of National Certificate**

National Certificate	Mean Rank	U Value	Sig	Statistical Decision
Holder	69.69			
Non-holder	39.58	603	.000*	Reject Ho

\*p<.05

As to sex. Finally, when tested for whether respondents' sex would affect students' hands-on competency, the Mann-Whitney U test showed no significant difference,  $U=1252$ ,  $p>.05$ ; thus, the null hypothesis is retained.

As with social-based skills, sex does not affect the hands-on competency skills of the trainees. Table 13 presents the data.

**Table 13- U-test Results of the Significant Difference in the Hands-on Competency Skills of the Practicum Trainees as to Sex**

Sex	Mean Rank	U Value	Sig	Statistical Decision
Male	50.62			
Female	56.38	1252	0.333	Do not reject Ho

\*p<.05

### 3.5 Significant Relationship Between the Social-based Skills and the Hands-on Competency Skills of the Practicum Trainees

To test whether a significant relationship exists between students' social-based skills and hands-on competency skills, Spearman's rho was used. The study showed a positive, high correlation between social-based skills and hands-on competency skills among students ( $r = 0.79$ ); thus, the null hypothesis is rejected.

It suggests that the better the students' social skills, the better the hands-on competency skills of practicum trainees. These findings validate the claim of Walker et al. [15] that social-based skills influence the hands-on competency skills of people.

### 4.0 Conclusion

Given the foregoing findings, the following conclusions were drawn: (1) The practicum trainees of the University of Antique have outstanding performance in terms of social-based skills. They are equipped with very good interpersonal and communicative skills, which they need to deal with the people they come in contact with in their work. (2) The practicum trainees of the University are spot-on. They possess the competencies required to perform the job to the fullest. (3) The curricular programs, the family income, and the presence or absence of the National Certificate have a significant influence on the social-based skills of the students. Academic Performance and sex are not factors in determining social-based skills level. (4) Hands-on competency skills level of the practicum trainees is determined by factors like academic performance, family income, curricular programs, and the National Skills Certification earned. (5) The better the social-based skills of the trainees, the better their ability to carry out the hands-on competency demands of the job.

### References

- [1] Hora, M. T. (2019). *Beyond the skills gap: Preparing college students for life and work*. Harvard Education Press.
- [2] Harvey, L. (2000). New realities: The relationship between higher education and employment. *Tertiary Education & Management*, 6(1), 3–17. <https://doi.org/10.1080/13583883.2000.9967007>
- [3] Fernando, D. S., & Bual, J. M. (2024). Life skills assessment: The context of grade 12 students in a Philippine catholic school. *Asian Journal of Advanced Research and Reports*, 18(8), 259–272. <https://doi.org/10.9734/ajarr/2024/v18i8728>

- [4] Farkas, A., & Nagy, V. (2008). Student assessment of desirable technical skills: A correspondence analysis approach. *Acta Polytechnica Hungarica*, 5(2), 43–57.
- [5] Fernando, D. S., & Bual, J. M. (2025). Ascertaining the computer literacy and challenges among grade 7 students in a Catholic school. *International Journal of Research Publication and Reviews*, 6(7), 6748–6758. <https://ijrpr.com/uploads/V6ISSUE7/IJRPR50905.pdf>
- [6] Bennett, N., Dunne, E., & Carré, C. (1999). Patterns of core and generic skill provision in higher education. *Higher education*, 37(1), 71–93. <https://doi.org/10.1023/a:1003451727126>
- [7] Chamorro-Premuzic, T., Arteché, A., Bremner, A. J., Greven, C., & Furnham, A. (2010). Soft skills in higher education: Importance and improvement ratings as a function of individual differences and academic performance. *Educational Psychology*, 30(2), 221–241. <https://doi.org/10.1080/01443410903560278>
- [8] Magiera, M. T., & Zawojewski, J. S. (2011). Characterizations of social-based and self-based contexts associated with students' awareness, evaluation, and regulation of their thinking during small-group mathematical modeling. *Journal for Research in Mathematics Education*, 42(5), 486–520. <https://doi.org/10.5951/jresmetheduc.42.5.0486>
- [9] Vinokur, E., Yomtovian, A., Itzhakov, G., Shalev Marom, M., & Baron, L. (2023). Social-based learning and leadership (SBL): theory development and a qualitative case study. *Sustainability*, 15(22), 15800. <https://doi.org/10.3390/su152215800>
- [10] Bisschoff, Z. S., & Massyn, L. (2025). A conceptual soft skills competency framework for enhancing graduate intern employability. *Higher Education, Skills and Work-Based Learning*, 15(7), 66–81. <https://doi.org/10.1108/heswbl-08-2023-0239>
- [11] Lewin, K. (2013). *Principles of topological psychology*. Read Books Ltd.
- [12] Fiori, M., & Vesely-Maillefer, A. K. (2018). Emotional intelligence as an ability: Theory, challenges, and new directions. In *Emotional intelligence in education: Integrating research with practice* (pp. 23–47). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-319-90633-1\\_2](https://doi.org/10.1007/978-3-319-90633-1_2)
- [13] Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences*. Basic books.
- [14] Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- [15] Walker, D., Roberts, J., & Mehlhorn, J. (2015). The importance of soft skill development for veterinary technology graduates and veterinary businesses. *Business and Economic Research*, 5(2), 315–326.
- [16] Camargo, S. P. H., Rispoli, M., Ganz, J., Hong, E. R., Davis, H., & Mason, R. (2016). Behaviorally based interventions for teaching social interaction skills to children with ASD in inclusive settings: A meta-analysis. *Journal of Behavioral Education*, 25(2), 223–248.