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Soft Skills Integration at Moulay Ismail University: Insights from a Pre- and Post-Course Analysis

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Abstract

In Morocco, securing employment is a significant challenge, but maintaining that job and fostering a healthy work environment presents an even greater difficulty. Soft Skills are essential in addressing these challenges, providing the tools needed to navigate workplace dynamics and enhance professional relationships. Moreover, Soft Skills play a crucial role in university life, helping students manage academic pressures, collaborate effectively with peers, and engage in meaningful extracurricular activities. This study evaluates a carefully designed module at Moulay Ismail University to improve these skills among first-semester students. The module focused on critical areas such as university life, learning styles, research techniques, and information processing techniques, preparing students with the Soft Skills necessary for academic challenges and professional advancement. This study adheres to a quantitative approach using a pre-and post-course evaluation design. The research involved a detailed SPSS analysis. The analytical approach included generating descriptive statistics to summarize data, conducting pairwise comparisons to examine changes throughout the course, and applying multiple measures ANOVA to determine the statistical significance of improvements in soft skills. Results indicated a significant enhancement in students' soft skills, confirming the effectiveness of the educational intervention. These findings highlight the importance of incorporating Soft Skills training into higher education curricula and support the continued inclusion of such training to improve student outcomes. Further research is suggested to explore the long-term effects of Soft Skills development on student success.

1. INTRODUCTION

This study's ultimate objective is to evaluate the newly implemented Soft Skills training module at Moulay Ismail University, specifically the inaugural course introduced to first-year students during the first semester of 2023/2024. This newly integrated module represents a pivotal step in curriculum development, aiming to enhance the non-technical competencies essential for academic and professional success. The evaluation focuses on three primary aspects: the overall effectiveness of the training by comparing student performance at the beginning and end of the semester, a detailed analysis of the immediate impacts of each

educational module within the course, and the examination of consistent and progressive improvement in students' Soft Skills throughout the semester. By conducting pre- and post-assessment tests, this study aims to determine if the course significantly improves students' soft skills, thus fulfilling the primary educational goals of the intervention. Additionally, by examining changes in students' scores after each module, the study seeks to identify the most and least effective modules, contributing to a more tailored curriculum design. Lastly, by tracking the incremental development of skills, the study aims to provide insights into the cumulative impact of the continuous educational approach, ensuring the course structure fosters sustained skill enhancement and prepares students for future challenges.

1.1.Background of the Study

In Moroccan, the evolving landscape of higher education increasingly emphasizes the significance of integrating Soft Skills alongside technical knowledge. This strategic emphasis is driven by several key factors that align with the country's goals of enhancing employability, embracing globalization, and reforming educational systems.

Firstly, Morocco's goal to become a centre for knowledge highlights the importance of employability, leading to a focus on developing graduates with vital Soft Skills like communication, teamwork, and problem-solving. Such skills are highly valued by employers and considered crucial elements for success in modern job markets (Amzazi, 2019). This economic strategy focuses on how proficiency in Soft Skills complements technical knowledge, thus improving career opportunities for Moroccan graduates.

Moreover, globalization has extended the reach and interconnectedness of the Moroccan workforce, making intercultural competence indispensable. Mtafi and Tijjini (2022) discuss the importance of integrating Soft Skills in Moroccan universities, highlighting how these skills enhance students' abilities to work effectively in diverse and multicultural environments. They emphasize that soft skills, such as empathy, teamwork, and communication, are crucial not only for professional success but also for fostering a more inclusive and supportive university community. Furthermore, they argue that intercultural pedagogy is essential in teaching these skills, as it helps students understand and appreciate cultural differences, ultimately leading to better collaboration and mutual respect among peers.

The Moroccan government's higher education reforms highlight the importance of producing well-rounded graduates. These reforms promote a holistic educational approach that includes developing Soft Skills in the curriculum, aiming to create graduates who are not only technically proficient but also skilled in critical interpersonal and cognitive abilities (Anouar, 2022).

The importance of Soft Skills in the Moroccan higher education context has also a role in enhancing academic learning and facilitating effective teamwork. Skills such as critical thinking and communication are foundational to academic success, enabling students to engage actively in discussions, analyze information critically, and articulate their ideas with clarity (Hairuzila, 2009, p 71). In parallel, teamwork and leadership skills are essential for collaborative projects, allowing students to manage conflicts constructively, lead effectively, and achieve shared objectives (Andrews & Higson, 2008).

Lastly, the dynamic nature of the modern world, where change is the only constant, necessitates the ability to adapt and engage in lifelong learning. Soft Skills such as self-management and

time management are pivotal in fostering individuals who are not just reactive to change but are proactive learners, equipped to thrive in continuously evolving settings (Robles, 2012).

In conclusion, the integration of Soft Skills in Moroccan higher education is a strategic response to the demands of a globalized job market, economic aspirations, and educational reforms. These skills are not merely supplementary but essential for the holistic development of students and their successful integration into the global workforce.

1.2. Problem Statement

Moulay Ismail University (UMI) has strategically recognized the importance of integrating Soft Skills within its curriculum to adequately prepare graduates for the demands of today's job market. This commitment is shaped by several compelling reasons, underlined through academic and global insights.

Firstly, employer expectations, a pivotal study by Lachgar (2017) reveals a significant disparity between the technical skills emphasized by universities and the Soft Skills sought by Moroccan employers. This gap shows the urgent need for institutions like UMI to enhance their focus on Soft Skills such as communication, teamwork, and problem-solving, which are highly valued in the workforce, as noted by the European Commission (2018). The integration of these skills at UMI is essential to bridge this divide, thereby enhancing the employability of its graduates.

Secondly, with globalized educational demands, UMI's active participation in international collaborations necessitates the cultivation of intercultural competence among its students. Soft Skills are crucial for graduates to effectively navigate diverse teams and manage cross-cultural communications. According to Benhaddou & Ennaji (2019), these competencies are vital for students to operate successfully in an increasingly interconnected world, making their integration a priority for UMI.

Thirdly, academic enrichment and Soft Skills like critical thinking and critical analysis are fundamental to academic success and are essential for a comprehensive educational experience. Green (2016) emphasizes that these skills enhance students' abilities to participate actively in class discussions, analyze information effectively, and communicate ideas. Thus, studying Soft Skills integration at UMI not only prepares students for professional life but also enriches their academic journey.

Fourthly, lifelong learning, in today's rapidly evolving professional landscape, the ability to adapt and engage in continuous learning is invaluable. Soft Skills such as self-management and time management are critical for lifelong learning, enabling students to thrive in dynamic environments. The World Economic Forum (2020) highlights these skills as essential for personal and professional development, advocating for their inclusion in educational programs at UMI.

Fifthly, leveraging UMI’s unique capabilities, UMI's diverse student body, and extensive international partnerships provide a unique advantage for Soft Skills integration. The university can develop innovative programs that incorporate real-world scenarios, foster intercultural exchange, and provide practical applications of soft skills. These initiatives, as recommended by the Organisation for Economic Co-operation and Development (2019), enhance the relevance and applicability of the curriculum, preparing students for real-world challenges.

1.3.The Purpose, Significance, and Scope of the Study

The ultimate objective of this study is to evaluate the newly implemented Soft Skills training module at Moulay Ismail University. The objective is to assess the inaugural Soft Skills training course introduced to first-year students during the 2023/2024 academic year. This newly integrated module marks a pivotal step in the curriculum development at Moulay Ismail University, aiming to enhance the non-technical competencies essential for academic and professional success. The evaluation will focus on three primary aspects.

Firstly, the assessment of the overall improvement in Soft Skills. The initial aim is to assess the overall effectiveness of the Soft Skills training by comparing student performance at the beginning and the end of the semester. This involves conducting pre- and post-assessment tests to measure the extent of Soft Skills enhancement across the student body. The comparison will determine if the course significantly improves students' soft skills, thus fulfilling the primary educational goals of the intervention. This assessment will not only highlight the immediate benefits of the course but also provide a benchmark for evaluating the effectiveness of similar future courses.

Secondly, analyzing the impact of individual chapters. The second focus is a detailed analysis of the immediate impacts of each distinct educational module within the course. By examining changes in students' Soft Skills scores after each module, this objective seeks to identify which modules were most effective and which may require further refinement. This granular approach to evaluation will allow for a nuanced understanding of module-specific strengths and weaknesses, contributing to a more tailored and effective curriculum design. This analysis will include statistical assessments to pinpoint significant developments and areas needing improvement, ensuring that each module contributes optimally to the overarching educational outcomes.

Finally, measuring the improvement over time. The final aim is to examine whether there is a consistent and progressive improvement in students' Soft Skills throughout the semester. This longitudinal assessment will track the incremental development of skills from the start to the end of the semester, providing insights into the cumulative impact of the continuous educational approach. By evaluating the progression of soft skills, this objective ensures that the course structure not only imparts knowledge effectively but also builds upon it progressively, fostering sustained skill enhancement. This aspect of the study will help in understanding the long-term benefits of the structured learning environment and its effectiveness in preparing students for future challenges.

By achieving these objectives, the study will offer a comprehensive evaluation of the Soft Skills training module's integration into the university curriculum. The findings will provide critical insights into the efficacy of the training program, guiding future enhancements to ensure it meets the evolving educational needs of students. Additionally, this evaluation will serve as a model for other academic institutions aiming to incorporate similar training initiatives into their curricula, thereby advancing educational practices in higher education.

1.4.The Research Questions and Hypotheses

1.4.1. Research Questions

The study tries to answer three research questions:

1. How do students' Soft Skills scores at the beginning of the course compare to their scores at the end of the course?

2. What are the changes in students' Soft Skills scores between consecutive tests conducted after each educational module?

3. Is there a progressive improvement in students' Soft Skills throughout the semester?

1.4.2. Research Hypotheses

H1: There is a significant improvement in students' Soft Skills from the pre-test to the final test.

H2: There are significant differences in students' Soft Skills scores between the intermediary tests.

H3: The educational interventions delivered through the course modules led to a progressive improvement in students' Soft Skills across the semester.

1.4.3. Null Hypotheses

H0 for H1: There is no significant improvement in students' Soft Skills from the pre-test to the final test.

H0 for H2: There are no significant differences in students' Soft Skills scores between each of the intermediary tests.

H0 for H3: The educational interventions delivered through the course modules do not lead to a progressive improvement in students' Soft Skills across the semester.

2. THEORETICAL FRAMEWORK

Soft skills comprise several interpersonal, communication, and cognitive skills required for academic and professional success. Such skills include critical thinking, collaboration, adaptability, emotional intelligence, and communication (Robles, 2012; Green, 2016). Recent educational reforms, particularly within the Moroccan higher education system, have emphasized integrating soft skills into university curricula to match the profiles of graduates with the ever-evolving requirements of the labor market (Amzazi, 2019; Mtafi & Tijjini, 2022). Therefore, this research project assesses a formalized soft skills intervention aimed at first-year University students conducted over a series of specified instructional modules. To base the intervention on established educational theory, the following subsections introduce the theoretical frameworks that support each module of the soft skills program.

2.1. University Life Module: Fostering Proactive Self-Management and Time Regulation

The "University Life" module focuses on competencies like time management, communication, and teamwork. These are crucial for a seamless transition into higher education. The module is based on Self-Regulated Learning theory (Zimmerman, 2000), where goal setting, self-monitoring, and strategic planning are essential in the learning process. The

University Life module focuses on students taking responsibility for their learning and development. SRL matches up with Habit #1: Be Proactive, from Covey's 7 Habits of Highly Effective People (1989). Covey states that a proactive person looks at issues within their circle of influence and takes the first initiative instead of being reactive to circumstances. One framework this view complements is Time Management Theory (Macan, 1994), which states that planning and prioritizing tasks ensure efficiency and reduce stress for a person. The combination of the two sets creates a platform for the University Life Module behaviours and attitudes that are foundational for lifelong learners and leaders.

2.2. Learning Styles Module: Theories of Experiential, Multiple, and Cognitive Learning Preferences

The Learning Styles module aims to develop students' self-awareness regarding how they process and engage with academic content. The module draws on Kolb's Experiential Learning Theory (1984), which treats learning as a four-stage cycle consisting of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Once learners identify their entry into this cycle, they are encouraged to use adaptive and reflective study strategies. Design also draws on Gardner's Theory of Multiple Intelligences (1983), according to which individuals have different cognitive strengths-linguistic, interpersonal, or spatial influence how they best absorb and retain information. The approach also stands upon Felder and Silverman`s Learning Style Model (1988), which categorizes learners along several dimensions like active/reflective, visual/verbal, sequential/global, etc. Integrating these complementary theories ensures that the module accounts for the entire range of cognitive and perceptual learning styles represented by a diverse student population.

2.3. Research Techniques Module: Developing Information Literacy and Inquiry-Based Critical Thinking

The "Research Techniques" module is anchored in several theories that, together, provide the basis for the development of academic inquiry skills. First, the 2016 Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education offers a structured perception of how students find, evaluate, and use information ethically. Complementing this is the Critical Thinking Theory (Paul & Elder, 2006), which advocates reasoned judgment, evaluating arguments, and problem-solving based on logic—all of which form the cornerstone of research and professional values. A third scaffold is provided by Inquiry-Based Learning Theory (Bruner, 1961; Pedaste et al., 2015), aimed at active investigation and exploration on the student's own. This encourages learners to remain curious, interpret data, and construct knowledge in ways that align with the notions of deductive-guided research. Together, these three frameworks emphasize the module's intent to nurture independent, critical, and information-literate students who are ready to succeed in academic and professional settings.

2.4. Information Processing Techniques Module: Cognitive, Visual, and Strategic Learning

The "Information Processing Techniques" module focuses on giving students tools to manage, organize, and express knowledge into meaningful constructs. The module leans on Cognitive Load Theory (Sweller, 1988) and aims to curtail unnecessary cognitive effort by way of

teaching learners to structure and simplify complex information through visual and strategic methods. Furthermore, Bloom's Revised Taxonomy (Anderson & Krathwohl, 2001) informs the formation of instructions, such as moving from mere understanding to higher-level operations such as analysis, synthesis, and creation. A third theory comes from Dual Coding Theory (Paivio, 1986), which states that verbal and visual representations, when presented together, create an interaction enhancing cognitive processing and memory retention. Capacities like mind mapping, schematization, and reformulation teach dual channels, giving the learner an in-depth understanding and strong recall. Theories, when put together, nurture students' metacognitive abilities and improve their processing of academic content in long-lasting and intensive ways.

3. CONCEPTUAL FRAMEWORK

3.1.Soft Skills Integration

The deliberate integration of Soft Skills within the English Department at Moulay Ismail University's Faculty of Letters and Human Sciences is more than an enhancement of the educational curriculum; it is a necessary adjustment to the rigorous demands of both global and local job markets. Asserraji and El-Ghouati (2021) highlight that proper Soft Skills play a key role in realizing a prosperous career and are highly required by employers hiring new graduates.

Their study underscores the importance of these skills in enhancing students' academic performance, social integration, and career advancement. This focused approach prepares UMI English graduates with a comprehensive skillset essential for excelling in their careers, navigating the intricacies of a globalized society, and engaging in lifelong learning—all of which are crucial for success in the 21st century.

The curriculum includes four specifically designed chapters—university life, learning styles, research techniques, and information processing techniques—that collectively build a robust foundation of vital soft skills:

The first chapter, University Life, delves into critical areas such as time management, communication, and teamwork. These skills are indispensable for managing the rigorous demands of university life and for succeeding in collaborative environments. Enhancing these capabilities enables students to not only excel academically but also to lay a solid groundwork for their professional futures, aligning with the insights of Sahin & Aydin (2016) on the importance of these competencies in higher education settings.

The second chapter, Learning Styles, this section helps students understand and leverage their unique learning styles. Recognizing how one learns best is a powerful tool that fosters self-awareness and adaptability, allowing students to tailor their educational strategies to suit various academic challenges. This adaptability is enhanced by the development of critical thinking and self-management skills, crucial for academic success and lifelong learning, as noted by Keefe (1987).

In the third chapter, Research Techniques, Proficient research skills are a composite of several capabilities including information literacy, critical analysis, and problem solving. This chapter emphasizes the development of these skills, which are essential not only for academic achievement but also for professional efficacy. James & Paige (2018) highlight how these skills

translate into valuable assets in any career, preparing students to handle complex information and make informed decisions.

In the current era, dominated by vast amounts of information, the ability to critically assess, synthesize, and effectively communicate information is more important than ever. The fourth chapter, Information Processing Techniques, focuses on equipping students with advanced information processing techniques, enabling them to thrive in the digital age and become proficient communicators in academic and professional contexts, as discussed by Guri-Rosenblit (2006).

Through these targeted chapters, the Department of English at UMI is not just teaching language proficiency; it is nurturing well-rounded individuals equipped to succeed in a dynamic and competitive global environment. By integrating these Soft Skills into the curriculum, UMI is effectively preparing its students to meet the challenges of the 21st century, ensuring they are prepared for a variety of professional paths and continuous personal development.

4. METHOD

4.1. Research Design

This study adheres to a quantitative, longitudinal, quasi-experimental design. The quantitative aspect involves the systematic measurement of variables through numerical data, which is analyzed using statistical methods to determine relationships and differences between groups. This approach assesses changes in predefined variables—Soft Skills in this case—where the magnitude and direction of change can be precisely quantified.

Although the duration of the study spans only three months, it is longitudinal because it involves multiple observations of the variables over this period. This design allows for tracking the evolution of students' Soft Skills from the beginning to the end of the course, providing valuable insights into the dynamics of skill development and the effectiveness of educational interventions at various stages.

4.2.Participants

The study included 40 first-semester students at Moulay Ismail University, who were part of a targeted educational program to enhance their soft skills, essential for both academic success and future employability. To evaluate the participants' effectiveness of educational chapters on Soft Skills development among first-year English students at Moulay Ismail University, a detailed study was conducted focusing on two specific groups: groups 3 and 8. Thanks to convenient sampling procedures and despite the typical class sizes of 303 and 288 for these groups, respectively, the study was limited to a subset of 40 students (19 from group 3 and 21 from group 8) who attended all sessions and completed the entire course. The number of participants is due to various factors such as non-attendance and dropout, ensuring that only fully participating students were included in the analysis.

4.3.Data collection procedures

Data collection for this study was performed manually, with all test scores standardized to a 20-point scale to ensure consistency and linearity in evaluating the course over time. The tests

were administered every two sessions, except the final test, which was scheduled with a longer interval to allow for extensive revision and mastery of the content. This scheduling strategy aimed to enhance the reliability of the final assessment results by providing students with adequate time to assimilate and reflect on the course materials.

Data were collected at several key points during the course to monitor the progression of soft skills:

Pre-Test on October 23: Initiated to gauge the baseline Soft Skills of students at the onset of the course.

Four Intermediary Tests: Administered after each significant educational chapter, specifically:

October 30 and November 13: Tests following the "University Life" chapter.

November 20 and 27: Tests after the "Learning Styles" chapter.

December 4 and 11: Assessments after the "Research Techniques" chapter.

December 18 and 25: Evaluations following the "Information Processing Techniques" chapter.

Final Test on January 31: This assessment captured the cumulative effect of the course on enhancing students' soft skills.

4.4.Instrument(s)

The data instruments for this study on the newly implemented Soft Skills training module at Moulay Ismail University primarily involve quantitative assessments to evaluate the program's effectiveness. Pre- and post-assessment tests will be administered to all first-year students at the beginning and end of the semester to measure their Soft Skills development. These assessments will capture baseline and endpoint measures of the key competencies covered in the course. Additionally, tests will be conducted after each chapter within the course to evaluate the immediate impact on students' soft skills. This systematic approach allows for the detailed tracking of students' progress and the identification of specific chapters that are particularly effective or require further refinement. The study also respects the three conditions of multiple measures ANOVA—independence of observations, normality, and sphericity—to ensure the reliability and validity of the results. Prior to the full-scale implementation, a pilot study was conducted to refine the assessment tools and ensure their effectiveness. By comparing the results of these assessments, the study aims to determine the overall effectiveness of the Soft Skills training and provide a benchmark for future course evaluations.

4.5. Data analysis

The methodology adopted for analyzing the data involved a comprehensive statistical approach using SPSS. The primary analysis included a Repeated Measures ANOVA, which is particularly effective for data involving multiple observations of the same subjects over time. This method facilitated an in-depth analysis of how students' Soft Skills evolved throughout the semester, allowing for an assessment of skill development at various points during the course.

Following the ANOVA, pairwise comparisons were conducted to explore specific differences between consecutive assessments. This step was crucial for identifying significant improvements or gaps in learning and providing detailed insights into the effectiveness of each course module.

In addition to these statistical tests, visual representations such as Estimated Marginal Means (EMM) and Multiple Line Graphs were used to further illustrate and support the findings. The EMM graph provided a visual depiction of how adjusted means of Soft Skills scores varied across the instructional periods. In contrast, the multiple line graphs visually demonstrated the progression of Soft Skills development over the course, highlighting trends and significant changes in the students' performances.

The goal of this methodological framework is to ensure a thorough examination of the educational modules' effectiveness in enhancing soft skills. By combining sophisticated statistical analyses with visual data representations, the study effectively dissected the incremental and overall changes in student competencies. This approach not only focuses on the study's commitment to rigorous academic standards but also provides a solid foundation for evaluating the transformative potential of structured Soft Skills training within the academic curriculum at Moulay Ismail University.

5. RESULTS

5.1.Repeated Measures ANOVA

This analysis examines performance data from six assessments administered to 40 first-semester students at Moulay Ismail University. These assessments included a pre-test, four intermediary tests, each following a significant instructional chapter, and a conclusive final test. The descriptive statistics illustrate the performance trends across the course and highlight the effectiveness of the educational interventions designed to enhance soft skills.

Table 1: Repeated Measures ANOVA Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	40	12,00	2,00	14,00	7,77	2,98
Test 1	40	8,000	12,00	20,000	15,75	1,67
Test 2	40	7,00	13,00	20,00	15,72	1,64
Test 3	40	9,00	11,00	20,00	16,07	2,05
Test 4	40	7,00	13,00	20,00	16,67	1,67
Final Test	40	5,00	14,00	19,00	17,02	1,25
Valid N (listwise)	40					

As an initial Assessment shown in Table 1, the pre-test assessed the students' initial Soft Skills proficiency with a mean score of 7.78 with a standard deviation of 2.98, indicating a broad range of initial competencies among students.

To describe the progression through course chapters, subsequent tests demonstrated improvements and variations in score variability:

Test 1: After the first chapter, the mean score rose to 15.75. The range (8) and a high standard deviation (1.68) suggest substantial variability, indicating that the impact of the training varied significantly among the students.

Tests 2 through 4: These intermediary tests showed a gradual increase in mean scores from 15.73, and 16.08 to 16.68, respectively. The standard deviation gradually decreased, signaling a convergence in student understanding and skills mastery as clearly described in Table 1.

We should not ignore the Non-Significance between Intermediary Tests. Statistical analysis revealed no significant differences in the students' scores between the intermediary tests (Tests 2, 3, and 4).

Table 1 shows some insights about the final assessment. The final test showed the highest mean score of 17.03, coupled with the lowest standard deviation (1.25) and range (0.5), indicating strong uniformity in student performance. This reflects substantial improvements and the successful attainment of the course's learning objectives.

Table 2: Multivariate Test of Effect Over Time

Effect		Value	F	Hypothesis df	Error df	Sig.
Time	Pillai's Trace	,931	94,400[b]	5,000	35,000	,000
	Wilks' Lambda	,069	94,400[b]	5,000	35,000	,000
	Hotelling's Trace	13,486	94,400[b]	5,000	35,000	,000
	Roy's Largest Root	13,486	94,400[b]	5,000	35,000	,000

A repeated measures ANOVA was conducted to assess the impact of educational interventions on the development of Soft Skills over time, measured at six different testing points (pre-test, four intermediary tests, and a final test). The Wilks' Lambda statistic evaluates the significance of changes across these points.

Table 2 shows that Wilks' Lambda analysis showed a significant effect of time on Soft Skills development, Wilks' Lambda = .069, F (5, 35000) = 94,400, $p < .001$.

5.2. Pairwise Comparisons

Table 3: Pairwise Comparisons

(I) Soft Skills	(J) Soft Skills		Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]

		Mean Difference (I-J)			Lower Bound	Upper Bound
1	2	-7,975*	,533	,000	-9,641	-6,309
	3	-7,950*	,449	,000	-9,353	-6,547
	4	-8,300*	,585	,000	-10,130	-6,470
	5	-8,900*	,462	,000	-10,346	-7,454
	6	-9,250*	,484	,000	-10,764	-7,736
2	1	7,975*	,533	,000	6,309	9,641
	3	,025	,305	1,000	-,928	,978
	4	-,325	,399	1,000	-1,574	,924
	5	-,925	,361	,214	-2,052	,202
	6	-1,275*	,232	,000	-2,000	-,550
3	1	7,950*	,449	,000	6,547	9,353
	2	-,025	,305	1,000	-,978	,928
	4	-,350	,333	1,000	-1,392	,692
	5	-,950*	,293	,036	-1,866	-,034
	6	-1,300*	,282	,001	-2,183	-,417
4	1	8,300*	,585	,000	6,470	10,130
	2	,325	,399	1,000	-,924	1,574
	3	,350	,333	1,000	-,692	1,392
	5	-,600	,349	1,000	-1,690	,490
	6	-,950	,353	,155	-2,052	,152
5	1	8,900*	,462	,000	7,454	10,346
	2	,925	,361	,214	-,202	2,052
	3	,950*	,293	,036	,034	1,866
	4	,600	,349	1,000	-,490	1,690
	6	-,350	,327	1,000	-1,373	,673
6	1	9,250*	,484	,000	7,736	10,764
	2	1,275*	,232	,000	,550	2,000
	3	1,300*	,282	,001	,417	2,183
	4	,950	,353	,155	-,152	2,052
	5	,350	,327	1,000	-,673	1,373

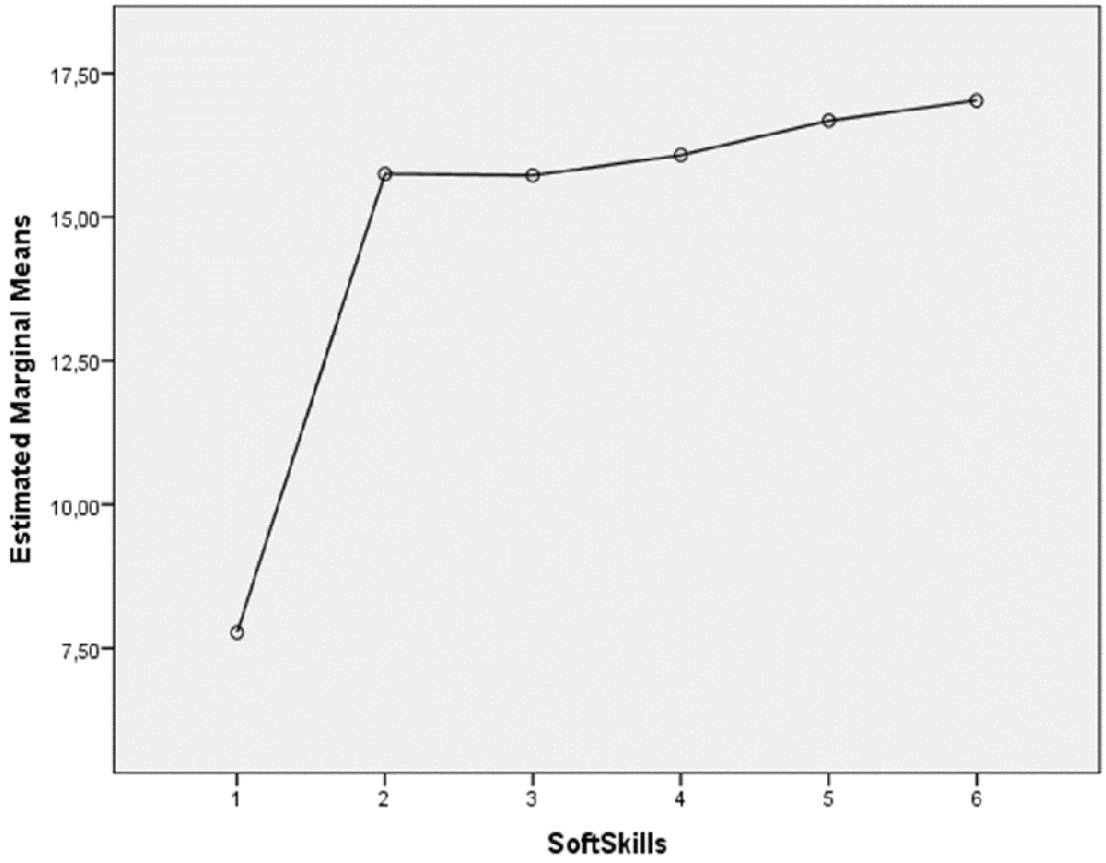
The results revealed significant findings. The pairwise comparisons from the pre-course to the final test showed a substantial increase in scores, with a mean difference of 9250 (SE = 484, $p < .001$, 95% CI [7736, 10764]), indicating that there were significant gains in students' Soft Skills by the end of the course. However, the intermediate tests, which assessed the impact of each chapter (from Soft Skills 2 to Soft Skills 5) meaning test 1 and test 4, generally displayed non-significant differences.

This suggests that while the chapters were effective in conveying their specific content, they did not lead to immediate measurable improvements in Soft Skills as assessed by the tests following each chapter. This pattern shows the cumulative nature of Soft Skills development, where significant enhancements become more apparent over time rather than immediately after individual sessions.

5.3. Estimated Marginal Means of Measures

Chart 1

Estimated Marginal Means of Measures



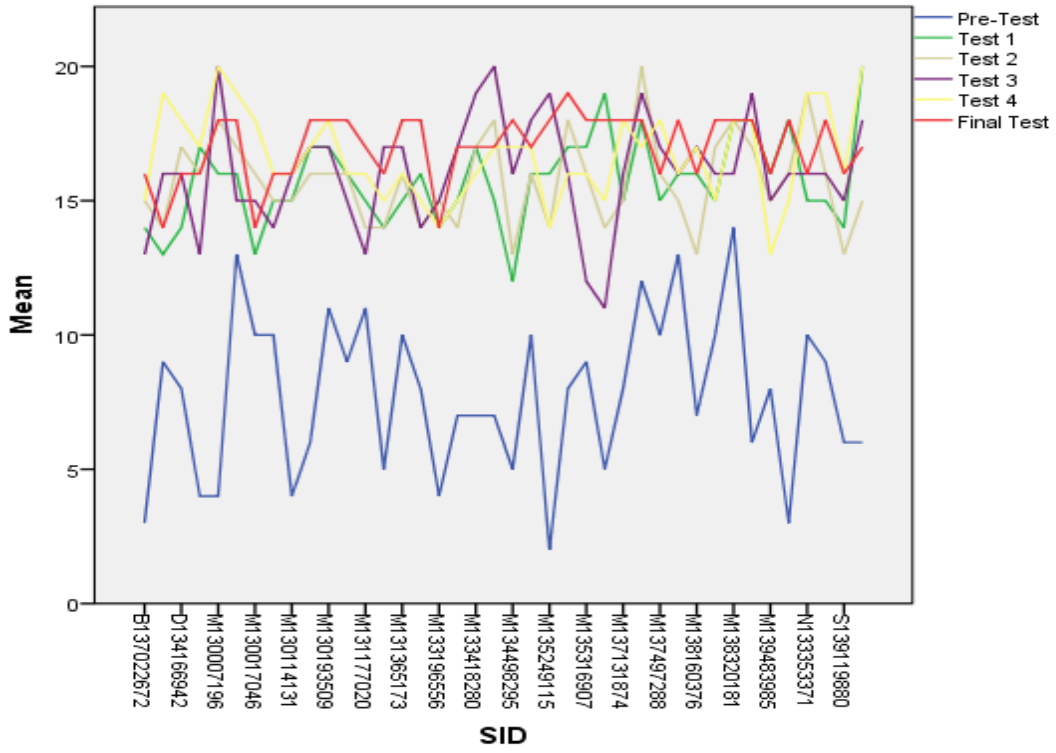
Estimated marginal means (EMMs) are a sophisticated statistical tool used in ANOVA analyses, especially valuable in studies involving repeated measures designs. These means are adjusted for other factors present in the model, providing an average expected outcome that accounts for various levels of other factors, thereby offering a refined interpretation of the complex data sets. In the context of educational research, where interactions and covariates play significant roles, EMMs are particularly useful. They help clarify the main effects and interactions within the study by estimating the mean response at each factor level while holding other factors constant.

In the study, EMMs were employed to assess the performance across different testing times, adjusting for potential confounders such as prior knowledge or initial skill levels. This methodological choice allows for a more accurate comparison of students' Soft Skills assessments over time, providing insights into the effectiveness of the educational interventions implemented throughout the course.

The presentation of the estimated marginal means in this study is visualized through chart 1 which plots these means across six different testing points: the pre-test, four intermediary tests following each instructional chapter, and the final test. The vertical axis of this chart ranges from 7.5 to 17.5, facilitating a clear visualization of how students' mastery of Soft Skills progressed over the course duration.

5.4.Multi-Line Graph

Graph 1: Multi-Line Graph



Graph 1 is a tool for visualizing student performance in a longitudinal study, particularly when tracking the development of soft skills. It uses a line chart format, where:

X-axis: Represents individual students identified by their student IDs.

Y-axis: Represents the average score achieved by each student on different assessments.

Each test administered throughout the study is depicted by a unique color:

Pre-Test: Blue Line

Test 1: Green Line

Test 2: Orange Line

Test 3: Purple Line

Test 4: Yellow Line

Final Test: Red Line

This color-coded approach allows viewers to easily track the performance trajectory of each student over time. Additionally, it facilitates identifying overall trends within the entire student cohort.

This graph offers valuable insights into student learning and the effectiveness of the Soft Skills training program. Here's a breakdown of key observations and discussion points:

Initial Performance: The blue line, representing the pre-test scores, provides a baseline for measuring improvement. If this line is significantly lower than the subsequent lines, it suggests that students entered the program with relatively low soft skills.

Progression Over Time: Ideally, the lines for Tests 1 through the final test (green, orange, purple, yellow, and red lines, respectively) should exhibit an upward trend compared to the pre-test line (blue line). This upward trajectory would signify a continuous improvement in students' Soft Skills throughout the training program, aligning with the program's educational objectives.

Significance of Improvement: The noticeable gap between the blue line (pre-test) and the later test lines visually emphasizes the program's effectiveness. It highlights the substantial improvement students achieved in their Soft Skills from the initial assessment to the later stages of the program.

Individual Variability: The graph allows us to examine individual student performance through the presence of each student's unique line. Some students might demonstrate rapid improvement with steeper line slopes, while others may exhibit more gradual progress with gentler slopes. This variability shows the importance of considering individual learning styles and paces.

Statistical Analysis: While the graph offers a visual representation of progress, it's crucial to complement this data with statistical analysis. Techniques like paired t-tests or repeated measures ANOVA can quantify the significance of the observed improvement from the pre-test to the final test. This statistical analysis strengthens the overall evaluation of the program's effectiveness.

6. DISCUSSION

6.1.Interpretation of Results

6.1.1. Descriptive Analysis

The descriptive statistics from the study at Moulay Ismail University provide a compelling quantitative overview of the progression in Soft Skills among first-year English students. The initial assessment, as highlighted by the pre-test results, indicates a mean score of 7.78 with a standard deviation of 2.98. This variance highlights the diverse range of Soft Skills proficiency students bring into the course, emphasizing the need for a personalized curriculum approach to cater to varying baseline skill levels. Such variability illustrates that while some students may already possess certain Soft Skills at higher proficiency levels, others may be relatively new to these competencies, necessitating tailored educational strategies to elevate their skills effectively.

As the course progressed, subsequent tests showed a notable improvement in mean scores—from 15.75 in Test 1 to 17.03 in the final test. The standard deviation decreased progressively from 1.68 in Test 1 to 1.25 in the final test, suggesting a reduction in score variability. This trend not only indicates effective learning and assimilation of the Soft Skills being taught but also suggests that students' skills became more uniform as the course

advanced. Students converging towards higher levels of proficiency demonstrate the effectiveness of the instructional methods employed, aligning well with the course objectives.

6.1.2. Pairwise Comparisons

The pairwise comparisons conducted as part of the study provide deeper insights into the differences between the scores from consecutive tests. Despite the overall progression observed in the descriptive analysis, the pairwise comparisons revealed no statistically significant differences between the scores of the intermediary tests (Tests 2, 3, and 4). This lack of significant variance suggests that while each educational module contributed to enhancing students' soft skills, no single module resulted in a dramatic improvement over the others. The uniform increments across these tests reflect a consistent instructional impact, which likely facilitated a steady development of Soft Skills without abrupt changes.

This consistency is crucial for educational strategies aimed at building complex competencies such as soft skills, which require time and repeated practice to develop. The absence of significant differences also suggests that the curriculum was balanced and that each component of the course was equally necessary, contributing holistically to the student's overall development.

These findings robustly support the continued integration of Soft Skills training within the university curriculum, emphasizing its critical role in enhancing student development and equipping them for future academic and professional challenges. This comprehensive analysis not only confirms the course's overall efficacy but also advocates for a model of similar educational strategies in various academic settings. The results show the value of a consistent and integrated approach to Soft Skills development, which effectively prepares students by uniformly building their competencies across diverse learning modules.

6.1.3. Multivariate Test Results Using Wilks' Lambda

The Wilks' Lambda result is a crucial component of the multivariate tests conducted in this study to assess the impact of time (the different testing points) on students' Soft Skills development. Employed as part of a repeated measures ANOVA, Wilks' Lambda tests the null hypothesis that the means of all groups (testing points) are equal. A significant Wilks' Lambda result indicates that at least one of the group means differs from the others, suggesting a robust effect of the educational interventions over time.

The Wilks' Lambda value obtained was .069, with an associated F-statistic of 94,400 and a p-value of less than .001. This result indicates substantial changes in Soft Skills across the overall duration of the course, underscoring the effectiveness of the educational modules in enhancing these skills. The very low value of Wilks' Lambda suggests that a large proportion of the variance in the Soft Skills scores over time can be attributed to the time effect, confirming the structured training program's impact.

Despite the overall significant effect over time, further analysis revealed no significant differences between the scores of the intermediary tests. This lack of significant variance between the intermediary assessments suggests that while the students showed progressive improvement, the increments were not statistically significant from one test to the next. This

uniformity across the intermediary tests may indicate that each module, while beneficial, contributed similarly to the students' Soft Skills development, without any single module being markedly more effective than the others.

6.1.4. Estimated Marginal Means

These findings highlight the incremental and significant growth in Soft Skills over the course, demonstrating that the structured educational chapters effectively contributed to enhancing these critical competencies. The use of estimated marginal means provided a nuanced understanding of this progression, underscoring the success of the curriculum in achieving its educational objectives.

The interpretation of estimated marginal means reveals key insights into the students' development throughout the course:

Pre-Test: The initial estimated marginal mean, which starts around 7.5, indicates a lower competency level in Soft Skills among the students at the beginning of the course. This baseline is crucial for measuring the impact of the course on students' skills enhancement.

Intermediary Tests: Each subsequent test shows an increase in the estimated marginal means, reflecting the impact of specific chapters on student development.

Final Test: The final test's mean, peaking at around 17.5, reflects the culmination of the educational efforts, with students achieving their highest Soft Skills proficiency by the course's end.

The graphical representation of estimated marginal means across multiple testing points serves as a valuable tool for educators to evaluate the effectiveness of their curriculum in real time. By visualizing student performance trends, educators can identify areas where the teaching or learning process might require adjustments to bridge any identified gaps.

Additionally, this graph allows educators to pinpoint students who may be falling behind or not demonstrating the expected progress, facilitating tailored interventions to support these students' specific needs and ensure they achieve optimal learning outcomes.

7. SUMMARY OF FINDINGS

This research, conducted at Moulay Ismail University, aimed to evaluate the development of Soft Skills among students enrolled in a specific course designed to enhance these essential competencies. The study's methodology involved a sequential assessment through six structured tests, capturing both the initial skill levels and the impact of each instructional segment of the course.

The assessment process began with a pre-course test (Soft Skills 1), establishing a baseline for each student's soft skills. This was followed by four tests administered sequentially after the completion of each educational chapter—namely, "University Life" (Soft Skills 2), "Learning Styles" (Soft Skills 3), "Research Techniques" (Soft Skills 4), and "Information Processing Techniques" (Soft Skills 5). The evaluation concluded with a final test (Soft Skills 6) to gauge the cumulative development of Soft Skills by the end of the course.

The analysis utilized an Analysis of Variance ANOVA to detect overarching differences in scores across all tests. To manage the risk of Type I errors associated with multiple comparisons from this initial analysis, Bonferroni-adjusted pairwise comparisons were employed as a post-hoc analytical technique.

The data analysis confirmed the effectiveness of the structured Soft Skills training provided throughout the course: Significant Improvement: There was a notable enhancement in Soft Skills from the beginning to the end of the course, evidenced by increased mean scores and reduced variability. Consistent Performance: The consistent performance across intermediary tests supports the efficacy of the educational interventions, which were carefully designed to progressively build upon each other.

Rejection of Hypotheses: The null hypotheses concerning the overall improvement from the pre-test to the final test (Hypothesis 1) and the progressive improvement throughout the course (Hypothesis 3) were rejected. This indicates significant gains in students' soft skills, affirming the success of the interventions.

Acceptance of Hypothesis 2: The null hypothesis regarding the absence of significant differences between the intermediary tests (Hypothesis 2) was accepted. This reflects an even impact of the course modules, with no single module showing a dramatic improvement over others, thus emphasizing a balanced and uniform instructional impact.

8. LIMITATIONS

While the study at Moulay Ismail University provides valuable insights into the integration and effectiveness of Soft Skills training in higher education, several limitations must be acknowledged to contextualize the findings appropriately.

One significant limitation is the dropout rate observed during the course. The attrition of participants could potentially skew the results, as the data primarily reflect the experiences and progress of students who completed the course in its entirety. This dropout factor might limit the generalizability of the study’s conclusions, as the outcomes for students who did not complete the course remain unexplored. Two groups of first-semester English students were originally targeted at Moulay Ismail University: Group 3 with 303 students and Group 8 with 288 students. The study sample was then reduced to 40 students, 19 from Group 3 and 21 from Group 8, due to absenteeism and withdrawal from the course.

The participants were drawn through convenient sampling and comprised those who attended all the sessions and completed the entire program of soft skills training. The nature of the intervention itself lent to this reduction in numbers, as the intervention required participants to attend every single session from the very first to the last one, in addition to participating in both pre- and post-assessment tests. This denotes an attrition rate of about 93%, which indeed might limit the generalizability of the findings. It alarms the reader that only the data of the students who completed the intervention were taken into consideration for analysis, thus excluding those who participated only partially. Therefore, the results could perhaps be an account of students more motivated or committed to, or in some way predisposed to engaging with the program successfully.

Another limitation concerns student engagement, particularly in the online parallel courses and discussions that were part of the curriculum. The lack of active participation in

these components could affect the development and measurement of soft skills, as these online interactions were designed to supplement and reinforce the learning outcomes of the in-person curriculum. The low engagement in these activities might have restricted the opportunities for students to practice and refine their Soft Skills in diverse and interactive settings, potentially impacting the overall efficacy of the Soft Skills training provided.

The study may also suffer from biases inherent in self-reported data, where students' perceptions of their soft skills development might not accurately reflect their actual competencies. Such biases can affect the reliability and objectivity of the assessments used to measure soft skills improvement. Moreover, while reflective self-evaluation is valuable, soft skills are best developed and assessed through authentic, situational engagement. The absence of structured practical activities within the classroom that closely mimic real-life scenarios may limit the depth of students' skill acquisition. To more effectively foster and evaluate competencies such as teamwork, communication, and problem-solving, future iterations of the program should incorporate experiential components such as role-plays, collaborative tasks, and problem-based simulations that mirror workplace or community-based contexts.

9. FUTURE RESEARCH

Given the findings and limitations of the current study, several areas for future research emerge. First, further studies could explore the reasons behind student dropout and low engagement in online course components. Understanding these factors could inform the design of more engaging and accessible Soft Skills training programs that minimize dropout rates and maximize student participation.

Research could also expand to include a more diverse student population across different faculties or universities to enhance the generalizability of the findings. Comparative studies could examine the effectiveness of different teaching methodologies or technologies in fostering soft skills, providing a broader perspective on educational strategies that successfully engage students and promote skill acquisition.

Moreover, future investigations could incorporate longitudinal designs to track the long-term impacts of Soft Skills training on student outcomes post-graduation. Such studies would provide valuable insights into how effectively these skills translate into professional settings and influence career trajectories and success.

Another promising area for research is the development and implementation of interventions specifically tailored to increase engagement in online learning environments. Studies could assess various motivational strategies, technological tools, and instructional designs to determine what factors most significantly enhance participation and learning outcomes in virtual settings.

Lastly, future research could also explore the impact of Soft Skills training on specific outcomes, such as teamwork effectiveness, communication skills, and emotional intelligence, using more objective, performance-based assessments to complement self-reported data. This approach would help mitigate the biases associated with self-reports and provide a more comprehensive assessment of the actual competencies gained through Soft Skills education.

These suggested directions not only build on the current study's findings but also address its limitations, paving the way for more comprehensive and robust educational research

that can effectively contribute to the ongoing development and refinement of Soft Skills training programs in higher education.

10. EDUCATIONAL IMPLICATIONS

This study delves deeper than simply confirming the effectiveness of a specific course in enhancing soft skills. It unveils the paramount importance of a persistent and integrated approach to educational interventions within higher education. The findings transcend a singular course, illuminating the transformative potential of continuous and well-designed Soft Skills training programs.

Firstly, it emphasizes the curriculum's structured design, showing the importance of cumulative learning and reinforcement, demonstrably equipping students with essential skills. This approach wasn't merely theoretical; it actively positioned students to tackle both academic challenges and the complexities of professional life. By building upon previously learned skills and consistently revisiting core concepts, the curriculum fostered a deep understanding and practical application of the Soft Skills being taught. This layered approach ensures that students not only grasp the fundamentals but also develop the confidence and competence to apply them effectively in diverse situations.

Secondly, the study's findings strongly advocate for the systematic and integrated inclusion of Soft Skills training within the broader framework of higher education curricula. Equipping students with these crucial skills is not merely an add-on, but a cornerstone for success in the 21st century. As Green (2016) emphasizes, Soft Skills are increasingly valued by employers alongside technical expertise. Graduates with well-developed Soft Skills are demonstrably better positioned to thrive in the job market (Amzazi, 2019). The ability to communicate effectively, collaborate with diverse teams, manage time efficiently, and think critically are no longer peripheral; they are fundamental for success in today's dynamic work environments.

Finally, this research not only highlights the impact of this specific Soft Skills training program but also lays a robust foundation for future research endeavors. The results serve as a valuable benchmark for similar programs seeking to integrate comprehensive skill development into their curricula. By fostering a spirit of continuous improvement and knowledge sharing, the field of educational best practices can be further advanced. Future research can explore different teaching methodologies, program durations, and assessment strategies to refine and optimize the delivery of Soft Skills training within higher education settings.

11. CONCLUSION

The data from the study at Moulay Ismail University provides compelling evidence of significant overall gains in Soft Skills across an academic semester. The analysis revealed a marked improvement in Soft Skills from the initial pre-course test to the final test, demonstrating the efficacy of the structured curriculum in enhancing these essential competencies. However, the lack of statistically significant differences among the scores for the intermediary tests suggests that while each module was effective in delivering its content, the improvements in Soft Skills were not immediately apparent after each chapter. Instead, these skills appeared to accumulate and manifest more substantially towards the end of the course.

This gradual development of Soft Skills supports the effectiveness of a consistent educational approach, where the curriculum is designed to build on previous lessons progressively. The absence of significant spikes or dips between intermediary tests shows a steady development process, suggesting that the educational strategies employed allowed for a deepening of understanding and application of Soft Skills over time. This steady progression is crucial in educational settings where the development of complex competencies, such as soft skills, requires time, repetition, and reinforcement.

The findings strongly advocate for the continued integration of Soft Skills training within university curricula. Such training is vital for fostering comprehensive student development and preparing graduates for the multifaceted challenges of the professional world. The evidence from this study confirms that a curriculum that progressively builds and integrates Soft Skills throughout its course can have a profound and cumulative effect on student development.

In conclusion, the comprehensive analysis presented in this study, bolstered by both descriptive statistics and multivariate test results, offers a robust framework for understanding how Soft Skills training can be effectively integrated into educational settings. The positive outcomes observed confirm the course design's validity and provide insightful guidance for future educational strategies aimed at enhancing Soft Skills development. By ensuring that Soft Skills training is an integral part of the curriculum, educational institutions can better prepare students for successful academic and professional careers, equipping them with the essential skills needed to navigate and excel in a complex, ever-changing world.

Overall, this comprehensive analysis provides invaluable insights into the progressive improvement of Soft Skills among university students. It not only supports broader educational objectives but also displays the critical role that structured, systematic training programs play in contemporary higher education settings. By employing such data-driven insights, educators can refine their curricula and empower students to cultivate the essential Soft Skills that will serve them throughout their academic and professional journeys. Equipping students with these skills is not merely an educational enhancement, but an investment in their future success, preparing them to navigate the complexities of a rapidly evolving world.

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Appendixes

Appendix A

Pre-Course Soft Skills Assessment Questionnaire

Note: This questionnaire is designed to help us understand your current soft skills and readiness for the course. Your responses will remain confidential.

Section 1: Personal Information

Full Name:

Student ID:

Email Address:

Department:

Year of Study:

Section 2: Soft Skills Assessment

(Please rate on a scale of 1 to 5 1: Not at all, 2: Weak 3: Moderate, 4: Strong, 5: Very Strong)

Communication Skills:

Verbal Communication: 1 2 3 4 5

Written Communication: 1 2 3 4 5

Teamwork and Collaboration:

Ability to work effectively in a team: 1 2 3 4 5

Cooperation and support for team members: 1 2 3 4 5

Time Management:

Prioritizing tasks and meeting deadlines: 1 3 4 5

Effective time management: 1 2 3 4 5

Problem-Solving:

Analyzing and solving problems: 1 2 3 4 5

Adaptability to changing situations: 1 2 3 4 5

Critical Thinking:

Evaluating information or arguments: 1 2 3 4 5

Making informed decisions: 1 2 3 4 5

Leadership:

Leading group projects or discussions: 1 2 3 4 5

Inspiring and motivating others: 1 2 3 4 5

Adaptability:

Openness to new ideas and change: 1 2 3 4 5

Resilience in the face of challenges: 1 2 3 4 5

Section 3: Expectations and Goals

What are your expectations from this soft skills course?

Do you have any specific goals or outcomes you hope to achieve by the end of this course?

Section 4: Self-Assessment for Course Chapters

Please rate your current knowledge or skills in the following areas, related to the course chapters:

Chapter 1: University Life at Moulay Ismail University, Meknès, Morocco

I am familiar with university life: Yes / No

I have experience in university-level academic activities: Yes / No

Chapter 2: Learning Styles and Organization of University Work, Both In-Person and Online

I understand different learning styles: Yes / No

I have experience with remote learning:Yes/ No

Chapter 3: Information Research Techniques

I am skilled in information research techniques: Yes / No

Chapter 4: Information Processing Techniques

I am skilled in information processing techniques: Yes / No

Section 5: Additional Comments:

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Appendix B

Test 1

1. *What are soft skills?*
   a) Technical abilities
   b) Hard skills
   c) Interpersonal skills
   d) Academic qualifications
   2. Why are soft skills important in the workplace and life?
   a) They are not important at all.
   b) They improve job-specific skills.
   c) They enhance communication, teamwork, and problem-solving.
   d) They are only important for leadership roles.

3. Soft skills typically encompass a range of qualities and attributes. Which of the following is NOT considered a soft skill?

a) Time management
b) Programming
c) Empathy
d) Leadership

. *University Life Questions:*

4. How many universities are currently part of Higher University Education in Morocco?

a) 10 universities
b) 12 universities
c) 14 universities
d) 146 universities

5. What are the two categories of university establishments in Morocco?

a) Open access institutions and restricted access institutions
b) Public institutions and private institutions
c) Research institutions and training institutions
d) Medical schools and engineering schools

6. Which types of establishments are included in the "Open Access Institutions" category?

a) Faculties of Medicine and Pharmacy
b) Faculties of Legal, Economic, and Social Sciences
c) National Schools of Commerce and Management
d) Higher Schools of Technology

7. How many credits are typically assigned to disciplinary modules?

a) 2 to 3 credits
b) 4 to 5 credits
c) 6 to 7 credits)

8. How many semesters does the Bachelor's degree cycle in the LMD system in Morocco typically last?

a) 4 semesters
b) 6 semesters
c) 8 semesters
d) 10 semesters

9. How are the courses delivered by university establishments typically organized?

a) Lectures and directed studies
b) Cycles, majors, and modules
c) Lectures and practical work
d) Lectures and internships

10. What are the total credits required to obtain a "Bachelor's" degree?

a) 150 credits
b) 180 credits
c) 200 credits

Appendix C

Test 2

1.What is the definition of learning style?

a) How fast you complete assignments

b) How you focus on new information

c) Your favorite subjects

d) Your social skills

2. According to the VAKOG model, which is not one of the sensory registers influencing learning styles?

a) Visual

b) Auditory

c) Kinesthetic

d) Olfactory

3. How can visual learners best facilitate their understanding of information?

a) Listening to podcasts

b) Engaging in group discussions

c) Using graphics and images

d) Conducting experiments

4 .What is the main characteristic of auditory learners?

a) Rely on tactile sensation

b) Use sight to perceive information

c) Use hearing to perceive information

d) Prefer to move during learning

5.What is recommended for kinesthetic learners to enhance their learning experience?

a) Listening to audio recordings

b) Taking notes in the form of "mind maps"

c) Drawing or writing by hand

d) Using graphics and images

6 .Duty-based procrastination involves:

a) Delaying tasks for enjoyable activities

b) Postponing the execution of important tasks

c) Completing tasks immediately

d) None of the above

7.What is a common consequence of duty-based procrastination?

a) Increased motivation

b) Lower grades

c) Enhanced academic progress

d) Improved relationships with peers

8. Procrastination based on desire involves:

a) Completing tasks immediately

b) Delaying the completion of important tasks in favor of more enjoyable activities

c) Having a strong work ethic

d) None of the above

9.According to the text, how can wasted time be minimized?

a) By increasing necessary time

b) By eliminating creative time

c) By increasing wasted time

d) By eliminating wasted time

10.The Pomodoro technique involves:

a) Long periods of uninterrupted work

b) Dividing the day into timed work intervals

c) Ignoring time management

d) Taking a break after the first work interval

11. What is stress?

a) A state of relaxation

b) A natural response to threatening or challenging situations

c) A type of procrastination

d) A form of wasted time

12.Productive stress can:

a) Decrease motivation

b) Result in an inability to act

c) Motivate a person to be more productive

d) Lead to health problems

13.What is unproductive stress often caused by?

a) Effective communication

b) Low workload

c) Excessive workload and poor communication

d) Lack of support

.14Paralyzing stress can result in:

a) Increased concentration

b) Difficulty in decision-making

c) Improved sleep

d) Mental fatigue

15. What is the first step in effective time management according to the text?

a) Assess expectations

b) Prioritize tasks

c) Sequence work

d) Take breaks

16.What does the Eisenhower matrix help with?

a) Choosing tasks based on their level of priority

b) Eliminating creative time

c) Ignoring important tasks

d) Increasing wasted time

17. According to the Pomodoro technique, what should you do after each work interval?

a) Take a longer break

b) Reset your timer to zero

c) Continue working without a break

d) Mark that work interval as incomplete

19.What is the guiding principle for effective time management mentioned in the text?

a) Increase wasted time

b) Eliminate necessary time

c) Reduce creative time

d) Eliminate wasted time, reduce necessary time, and increase creative time

19. Why is it important to understand different learning styles?

a) To determine the best way for you to learn

b) To imitate others' styles

c) To criticize different approaches

d) To eliminate diversity in learning methods

20. What can effective planning of study time ensure?

a) Decreased academic performance

b) Increased procrastination

c) Focusing on academic priorities

d) Ignoring other responsibilities

Appendix D

Test 3

1. What is the primary purpose of a search

engine?

a) To create websites

b) To explore resources, content, and documents on the web

c) To design multimedia files

d) To restrict access to information

2. What characterizes open search engines?

a) They impose limitations on content types

b) They are reserved for specific communities

c) They enable searching without limitations

d) They focus on professional profiles

Types of Searches:

3. When is a simple search most suitable?

a) When seeking precise information

b) When requiring a quick introduction to a subject

c) When using logical operators

d) When conducting academic research

4. What does an advanced search enable?

a) Refinement of search results using criteria like research domain and publication date

b) Quick review of key elements in the text

c) Combining keywords using logical operators

d) Searching without any limitations

5. What is the purpose of a Boolean search?

a) To combine keywords using logical operators

b) To find general information on a subject

c) To impose limitations on search results

d) To explore resources on the web

Information Selection:

6. What is the strategic operation during

information retrieval that involves retaining

only pertinent information?

a) Speed reading

b) Note-taking

c) Relevance assessment

d) Boolean search

7. What does relevance in information

selection refer to?

a) The importance and relationship of

information to the research subject

b) The timeliness of the collected information

c) The precision of the collected information

d) The exhaustive nature of the collected

information

8. Information Selection Techniques:

What is a key principle of speed reading?

a) Skimming to quickly review key elements of

the text

b) Scanning to swiftly find specific information

c) Note-taking to organize important

information

d) Boolean search to refine search results

9. What is the most effective method for

hierarchizing and relating information?

a) Speed reading

b) Note-taking

c) Mind mapping

d) Relevance assessment

10. What is the overarching message of the

conclusion regarding information retrieval?

a) To restrict access to information

b) To avoid information overload

c) To explore resources on the web

d) To conduct academic research

Appendix E

Test 4

Section 1: Diagnostic Assessments for Personalized Module Mastery

1. What role do diagnostic assessments play in university education?

a. Only for evaluating instructors

b. Guiding students in module selection and improvement plans

c. Ignored as they have no impact

2 How can students strategically use diagnostic tools?

a. Exclusively for comparing with classmates

b. To discover their unique learning landscapes and preferences

c. Only for evaluating instructors

Section 2: Reformulation and Memorization in University Education

3. What is the significance of reformulation in university education?

a. Only for memorization purposes

b. Gauges understanding and encourages analytical thinking

c. Unnecessary in academic settings

4. Why is memorization considered essential in language studies?

a. Only for passing exams

b. Enhances language proficiency

c. Irrelevant in literature courses

Section 3: Encoding, Storage, and Retrieval in University Education

5. What does encoding involve in university education?

a. Translating information for short-term retention

b. Translating information into a format for long-term retention

c. Ignoring information intentionally

6. Why is retrieval critical in disciplines like law or medicine?

a. Only for academic assessments

b. Solely for theoretical understanding

c. Facilitates recall for academic assessments and real-world application

Section 4: Schematization, Pre-Attentive Characteristics, and Problem-Solving Techniques

7. What is schematization in education?

a. Ignoring visual representation

b. Converting information into visual diagrams

c. Only applicable in science courses

8. How does color coding contribute to education?

a. Causes confusion

b. Not applicable in academic settings

c. Makes information visually distinct and memorable

9. What is the role of gamification in education?

a. No role in learning

b. Only for physical education

c. Enhancing critical thinking skills through game-based learning

Section 5: Overall Understanding

10. What is the primary goal of problem-solving techniques in education?

a. Memorization of solutions

b. Ignoring real-world application

c. Fostering academic growth, skill development, and preparing students for challenges

Appendix F

Final Test

1. What do we typically refer to when we talk about 'soft skills'?

a) Technical skills

b) Hard skills

c) Skills like communication and teamwork

d) Formal educational qualifications

2. Learning Styles What is the definition of learning style?

a) How quickly you finish assignments

b) The manner in which you process new information

c) Your preferred subjects

d) Your interaction skills

3. What is the main function of a search engine?

a) Developing websites

b) Navigating and finding online content and documents

c) Creating multimedia files

d) Limiting information access

4. What is the purpose of diagnostic assessments in university learning?

a) To assess the performance of teachers

b) To guide students in choosing modules and planning improvements

c) They are not considered useful

d) None of the above

5. How many universities are currently part of Higher University Education in Morocco?

a) 10 universities

b) 12 universities

c) 14 universities

d) 146 universities

6. What is recommended for kinesthetic learners to enhance their learning experience?

a) Listening to audio recordings

b) Taking notes in the form of "mind maps"

c) Drawing or writing by hand

d) Using graphics and images

7. What is the purpose of a Boolean search?

a) To combine keywords using logical operators

b) To find general information on a subject

c) To impose limitations on search results

d) To explore resources on the web

8. What does encoding involve in university education?

a) Translating information for short-term retention

b) Translating information into a format for long-term retention

c) Intentionally ignoring information

d) None of the above

9. Duty-based procrastination involves:

a) Delaying tasks for enjoyable activities

b) Postponing the execution of important tasks

c) Completing tasks immediately

d) None of the above

10. What is the primary goal of problem-solving techniques in education?

a) Memorization of solutions

b) Ignoring real-world application

c) Fostering academic growth and skill development

About the Authors

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