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EFFECT OF UNDERGRADUATE STUDENT AGE ON WORK-INTEGRATED LEARNING PREPARATION AND EXPERIENCE

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Abstract

Work-integrated learning (WIL) is a strategy to create effective talent pools and meet business needs for competent and work-ready graduates. There are limited empirical studies on how WIL student demographic profiles (i.e., age) may affect the effectiveness of WIL projects and learning experience. Guided by the research question: Does undergraduate student age affect WIL preparation and experience? A survey was conducted through a quantitative approach among final year undergraduate students who participated in the WIL programme. Sixty-six copies of the questionnaire were distributed, forty retrieved and consider valid for further analysis. Data were analysed using descriptive and inferential statistics. Findings show that age could be an important factor in a student's WIL experience. Students in the age group of 21 years may have better WIL experiences than younger or older WIL students. Although age is not considered a major factor in determining overall WIL experiences, student demographical information is important for successful WIL projects. Findings further show that WIL preparation is an important factor towards better WIL project outcomes and enhanced student experiences. This paper adds to the body of knowledge on WIL student demographic considerations and creates awareness that student demographics must be considered if WIL projects are to be successful.

Keywords: WIL student demographics, WIL preparedness, WIL experiences, human capital, talent, WIL effectiveness.

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1. Introduction

The labour market reality, employers concern about graduates employability, and the emergence of the fourth industrial revolution (4IR) skillset has increasingly pressured higher education institutions to transform how knowledge and skills are transferred to students globally. Societies and economies' demand for proficient, innovative, and balanced workforces in the 4IR era is increasingly gaining higher ground. Currently, teaching and learning in the normal blackboard interaction classroom may not offer the toolbox of skills and competencies, required for employment in the future world of work. Related to the future of work, the current debate on work-integrated learning, commonly known as WIL, is not only relevant at this time, but also presents the most appropriate global approach for the successful turnaround of higher education in achieving the global Sustainable Development Goals, specifically Goal 4, to provide Quality Education that meets humanity's socioeconomic needs.

While 4IR ushers in new and different learning modes across regions, WIL is a learning modality that encompasses a range of activities that integrate classroom and workplace learning and practices. During WIL experiences, students engage in workplace performance via thought-pro-

voking performance tasks, projects, and activities. Specifically, WIL seeks to extend the boundary of higher education through students' engagement in industry-related activities for hands-on experience, demo businesses, virtual patients (health professionals), and deliberately blend student theoretical knowledge with real-life workplace practice [1–4].

As part of the roadmap into the future of work, stakeholders of labour, business, and community affairs have challenged the institutions of higher learning, especially the universities, to produce better-prepared and work-ready graduates. They validly claim that students must be engaged with workplace practice and community engagement projects to address the demands and challenges, associated with graduate employability after university studies. This is especially relevant as all sectors of society, specifically small and medium businesses, fully transit into the era of 4IR, allowing for WIL students to contribute to 4IR skills transfer into economies and societies [5, 6].

Higher education has the unique purpose of being the fountain and hotspot for growing humanity's creativity, innovation, and research capability; thus, co-creating high-skilled human intelligence and learning and development centers with other sectors of society. Tertiary institutions are the source of employability skills for the future workforces, developing talented leaders, managers, and employees to meet local, national and global business and community needs. Furthermore, lifelong learning and life and work experiences have become essential and significant antecedents for sustained, purposeful employability in the 21st century 4IR world [7, 8]. Combining learning-for-work (classroom learning) with learning-at-work and learning-through-work (WIL) [9] is a dependable way to produce quality ready-to-market graduates. In response to the reverberating calls for a learning approach that integrates discipline-related theoretical knowledge and industrial knowledge to produce ready-to-market graduates [2, 4, 10, 11], governments and leadership of higher education institutions have moved WIL from the periphery to the center of academic curricula [1, 3]. There is an overwhelming evidence that WIL improves students' performance, character, competence, and employability status [1, 12].

The success of the WIL project depends on whether the student performance and learning outcomes are relevant and that the WIL experience meets the intended project goals. Designing assessments with student portfolios that reveal a developmental progression of theory and practice outcomes promotes academic and work performance, especially if the emphasis is on constructive and timely feedback to ensure successful WIL experiences and projects [13]. WIL outcomes and assessments must promote authentic student learning experiences, ensuring that generic, business and employment outcomes are attained [9]. Students who obtain relevant work experience before graduation compare better than those that have not, in terms of these skills: the ability to apply knowledge and technical skills in real work settings; take better and inform decisions about career direction; feel more optimistic about career choices; negotiate higher starting salaries than those with no work experience; are more analytical in problem-solving; and easily gain improved disciplinary thinking capacity [14, 15].

Globally, WIL is structured within undergraduate programs in most universities; however, its effectiveness on actual learning and overall student experience of the WIL project is not being measured in many institutions [6]. This creates a knowledge gap, especially when relevant empirical research, data, and feedback for planning and policy purposes are required by national leaders, business leaders, and professionals. Based on this literature gap, the purpose of this study was to ascertain the effect of WIL preparation on South African WIL student experiences. A sample of the perceptions of WIL students in an undergraduate qualification was examined, comparing how different age groups reacted to their WIL preparation and experience. The paper contributes to theory by adding to the body of knowledge on African university student WIL projects, preparation, experiences, and management. Practically, the study contributes to better management of WIL projects, factoring in the age of WIL students, which impacts WIL experiences and WIL project success. This paper is structured into these sections: literature review, research method; results; discussion; and conclusion with limitations and recommendations for further research.

The literature trends are presented under these subheadings: WIL in higher education; WIL curricula and experience; WIL and human capital; WIL competencies and skills; Effectiveness of WIL; and WIL preparedness.

WIL in Higher Education

In higher education institutions where the WIL approach has been adopted, the outcome shows significant improvement in student performance. In institutions where the approach has not been fully adopted, especially as a strategy across multiple disciplinary fields, the capability to train ready-to-work graduates is poor. There is a need to harmonise existing data and examine the effectiveness of WIL projects across various disciplinary fields using combinations of characteristics, such as student demographics, especially for establishing how effective and benefiting the WIL project is to the students. Evidence in the literature on the effectiveness of WIL on graduate employability [1, 9, 16, 17] serves as the premise, on which WIL should be entrenched into the university curricula.

There are both opposition and support by stakeholders within and outside academia on the effectiveness of students developing employability skills outside the classroom. Some studies argue that WIL does not benefit students equally due to factors, such as personality traits, demographic characteristics, cognitive ability, workplace environment, and other conditions. Comyn and Brewer [18] established that demographic characteristics, such as age and gender, are tendencies for students' variations in skills and learning outcomes during WIL placement. Similarly, Jackson [5] investigated the effect of the age group of WIL and found that a certain group of students recorded a much higher improvement in skills acquisition than other age groups after WIL placement. WIL in higher education programs must consider how age may affect the success of WIL experiences.

Establishing the effectiveness and appropriateness of the WIL project and placement requires an evaluation of the student's level of preparedness, supervisor, institutional support, and the student's experience before, during, and after placement [2]. A positive WIL experience provides an opportunity for the university to maximise the student learning experience as well as integrate essential 4IR, business, and community engagement skills into their academic learning outcomes. For curricula inclusiveness, embeddedness, and 4IR relevance, WIL integration into university qualifications must become a priority. Furthermore, the implication of student demographics and biographical data (i. e., age groups, gender, cognitive ability, personality traits, etc.) must also be measured, considered, and managed for university WIL project effectiveness [3].

WIL Curricula and Experience

WIL is a topical issue in recent academic discussions, as WIL is an instrument for enhancing professional practice, developing students' work readiness, and meeting industry standards for graduate placement into internships or productive employment [5]. Several terminologies are used to denote the approach of the formal arrangement of experimental learning between institutions of higher learning and industry. While many referred to WIL as work-based learning, clinical or field education, and cooperative learning [19], others denote WIL as student industrial work experience schemes (SIWES) [20] or industrial attachments or internships [21]. WIL in any form allows university students to understand organisational culture, expectations, and the requirements of the real working environment, while still studying at a university [5]. Due to the obvious benefits of WIL to students, educational institutions, industry, and society, there is an increased effort by governments, business, community, and university leaders to formalise the inclusion of WIL into academic and business curricula [22]. Integrating WIL into academic curricula increases the capacity of graduates to perform well in their preparation for life after graduation. WIL curricula focus on learning outcomes and assessment criteria that allow students to engage in practical learning in the real workplace setting. Comyn and Brewer [18] and Rambe [23] specifically viewed WIL as the practical aspect of the curriculum where students relate with the actual workplace through active participation in work activities and tasks. WIL outcomes must allow the student to be well prepared to engage and perform in the organisation in anticipation of successful future employment and career. Hoang [21] reiterates the significance of the WIL curricula as an approach to address the socioeconomic obligations of higher education institutions to provide societies and economies with future talents.

Research into the effectiveness of university student WIL curricula, preparation, and experiences is scarce. Though the benefits of WIL projects are never in doubt, more in-depth, rigorous, and extensive research is required to understand WIL dynamics and ascertain how effective WIL

is in improving student competencies towards employment prospects [8]. Furthermore, graduate unemployment is on the increase, and there are continuous complaints from employers that graduates are not skilful in applying classroom learning on the job. WIL presents universities with the opportunity to provide a strong business knowledge base and to introduce various practices and professions to their graduates to enhance their graduate employability status. According to Govender and Wait [13], classroom learning alone cannot produce future-fit graduates; thus, the need to embrace WIL and encourage learning from performance should be a critical departure from the traditional teaching model in the university. Divan and McBurney [10] found that the main purpose of WIL is to build discipline-specific knowledge, skills, attitudes, workplace generic cognitive ability, behavioural and technical competencies in students. WIL is the tripartite relationship between students, industry, and learning institutions to provide relevant professional and business skills to future leaders, managers, and employees [21].

WIL and Human Capital

Rampersad and Zivotic-kukolj [16] noted that WIL contributes to the human capital development strategy of the organisation by identifying and developing the future employee. Furthermore, employers perceive WIL placement as a way of introducing fresh and different ideas to future potential employees [11]. WIL serves to fulfil business cooperate social responsibility, presenting a way of connecting universities with employers towards building collaborative research relationships [2].

Most universities globally have included WIL in their strategic goals and strengthened their commitment towards its implementation, allowing for the reshaping of pedagogy and teaching and learning approaches. There is an adequate evidence, pointing to the efficacy of integrating WIL into university curricula as it is an effective approach for preparing graduates for life in the workplace. WIL is described as a way to facilitate the transition from university to work to improve graduate employability by providing practical experience, directly related to university courses [23]. WIL preparation allows for the development of student self-efficacy, transitioning students from pupil to practitioners through work experience and performance accomplishments [5, 8].

WIL preparation and experience play an important role in developing future professionals for productive engagement in the workplace. Well-prepared WIL students experience opportunities for authentic engagement in the work context through observation, interaction, and learning about the equipment in practice [22]. The benefits of effective WIL preparation include the significant trust, established in the university-industry partnership, growing human capital, and changing the notion that WIL is burdensome for the organisation in terms of cost and motivation [6]. The human capital theory is based on the ideology that all the attributes, required for industrial production and economic growth (i.e., development of knowledge, skills, professionalism, enlightenment, etc.) towards societal value addition, is established by higher education [14, 24]. The current paradigm of technological advancement in the 4IR era challenges traditional models of knowledge transfer, especially within the university system. Effective WIL preparation programs could use 4IR as their instrument to establish dynamic and flexible partnerships between educational institutions, businesses, and community projects [21].

WIL Competencies and Skills

WIL denotes industry-based experience and the development of work-ready related competencies in graduates. The motivation for WIL partnerships has been a contentious issue between the employer and higher education institutions due to its perceived cost and benefits to the stakeholders [22]. The benefits of WIL include the relevant business skills, taught in students to complement the theoretical knowledge, acquired in the classroom to solve practical problems in the workplace [25]. WIL is structurally designed to connect the work-based and business component to academic theory [1]. The benefits of WIL are all-encompassing to students, employers, educational institutions, and society.

Like other sectors, educational institutions continue to grapple with the challenges of delivering relevant knowledge and producing more employable and work-ready graduates that will meet employers' expectations, especially as technology changes the pattern of occupations and skills. To the education sector, especially the university, the benefit of the WIL program is magnificent

in repositioning the teaching-learning mandates towards solving industry and community challenges. Reynold et al. [22] reported that beyond responding to employer demands for quality and skilful graduates, WIL provides the opportunity to increase the networking of professionals and practitioners. This facilitates information about changes in workplace practices and clarifies the expected skills and standards in new graduates; thus, birthing a more holistic industry-align curriculum, designed for an educational institution [2, 4]. Through mentoring, coaching, supervision, and assessment of students on work placement, academic staff gain and have access to contemporary work practices and new developments in the industry, through which the curriculum can be updated to serve the requirements of the labour market [7].

Student perception and experience of WIL are connected to the development and implementation of successful WIL pedagogy [12, 22]. The effectiveness of WIL depends on many factors depending on the characteristics of and the complexity of the relationship between the WIL student, lecturer/supervisor, university support, business environment, WIL project leader, and WIL administrator [9]. Assessing the level of skills students have developed through WIL assists in improving their work readiness and helps explore the strengths and weaknesses of the WIL program in a given context. Students develop these competencies and skills during WIL experiences: interpersonal and communication skills [3, 6]; abilities and flexibility to adapt to changing environments [15]; research skills and analytical expertise [22]; confidence in applying for jobs due to self-efficacy [23]; decision making and cognitive abilities as well as group work and collaborative team skills [9].

WIL is perceived as a fundamental strategy for preparing the global population, especially university students, for successful future careers in the 4IR workplace. Wolf and Booth [4] argued that assuring graduate employability in the 21st century can easily be attained only when students are allowed to experience real workplace issues and apply theories and concepts, learned in the classroom, to practice-based tasks using the strategy of WIL. Beyond employability and the practical experience, gained by students, WIL and work placement equip students with skills and competencies that enhance their academic, job, career, professional and social learning. WIL students who have positive WIL experiences often obtain higher grades and perform better in their final year of study; thus, they have a better chance of gaining a higher cumulative grade at the end of their academic program [21, 25].

Effectiveness of WIL

WIL can be considered as the transition phase between students leaving the classroom and entering the workforce. This transitioning phase necessitates evaluating the effectiveness of students' experience undertaking WIL [26, 27]. WIL is the opportunity, provided to students across disciplines to develop business skills, needed for future employment. The effectiveness of WIL is evident in improving student skills and competencies for employability [8, 23], while non-competency-based placements are found to meet student personal needs, expectations, and future aspirations [25]. Evaluating the effectiveness of WIL is challenging because the learning takes place outside the classroom and in a semi-autonomous environment for the students [2]. According to Patrick et al. [28], sufficient preparation, suitable supervision, and efficient monitoring arrangements are the hallmarks of an effective WIL program. Defining WIL stakeholders and identifying their expectations and resources are essential in any WIL program [8, 11]. WIL project leaders must ensure that stakeholders have realistic goals before, during, and after placement [28]. The best measure of WIL effectiveness is through the experience and feedback from students [29]. In support, Suleiman [11] stated that the most influential instrument to determine quality assurance in the WIL project and university support is student feedback. The best assessment tool for evaluating WIL effectiveness is student feedback of WIL preparation and experience [25]. Student experiences and feedback are generally accepted as valid measurement methods as they provide valuable insights to teaching, learning, preparation, performance, and management, especially in the evaluation of WIL [3].

Evaluating the effectiveness of WIL is typically more complex as the student experience occurs outside the university environment. Workplace learning and assessment differ significantly from that of the classroom, and the university has little control over the learning that takes place in

the workplace [23]. Venville, Lynch, and Santhanam [19] argued that without data and clear reporting procedures on WIL, it might be difficult for the university and other stakeholders to identify trends in the student experience of WIL over time. This may challenge the relationship between WIL providers, resulting in a threat to teaching and learning quality assurance both in universities and businesses [26].

WIL Preparation

Reddan [8] emphasises that educational institutions need to specify the purpose of WIL to the students via learning outcomes that encourage them during the work placement. The inclusion of WIL curricula allows for the acquisition of skills and knowledge that is not exclusively reserved for higher education academics [11]. WIL preparation must include the expertise, competencies, and hands-on skills, required outside the educational institution by businesses and the general public. Effective WIL preparation provides students with the opportunity to develop innovation capability, leadership, and decision-making skills that cannot be easily learned through exclusive exposure to traditional classroom learning [16]. The level of acceptability of the WIL approach as an effective strategy in addressing graduate skill shortage is low but improving on the African continent. There is limited empirical research on WIL preparation, experiences, and project effectiveness in African countries [20]. Preparing WIL students to develop business skills, associated with their chosen profession, allows them opportunities for career advancement through work placement. Rambe [23] noted that WIL preparation allows students to engage with specialists in their chosen profession and contribute meaningfully and purposefully to the world of work in general. Successful engagement of WIL students in the WIL preparation phase of the WIL project will increase their acquisition of workplace knowledge and skills and lead to improvement of attitudes and behaviour towards work readiness and preparedness [6, 13, 28].

The study aimed to understand the relationship between student WIL preparation and WIL experience; and how student demographics may affect their WIL experience.

2. Research method

The research method is presented under these subheadings: design and paradigm; sample and participants; instrument and procedure; analysis; and ethical considerations.

Design and Paradigm

The research design was quantitative, employing a survey questionnaire to measure the perceptions easily from the participants. The research paradigm was post-positivism, allowing for the ontology (nature of reality) to be objectively measured and the epistemology (new knowledge created) to be deduced [30].

Sample and Participants

The sampling strategy was purposive, as a specific group of final year undergraduate students who had undergone WIL preparation and experience were identified as the sampling group. Participants were enrolled as full-time students in a Human Resources Management Bachelor's level at a South African city university. The study was conducted on a class of students, consisting of sixty-six (66) who completed the survey after their WIL placement in different organisations. Forty (n=40) returned, completed, and valid questionnaires formed the study sample. Participants were male and female students between the ages of 19 to 25 years, most residing in the inner-city area of Johannesburg.

Instrument and Procedure

A structured survey questionnaire was developed to measure the perceptions of WIL students. Parts A and B of the survey instrument collected biographic, demographic, and workplace information, which included the following: gender, age, the name of the organisation, and other relevant personal information. Part C, consisting of 10 items, measured student preparedness for WIL before WIL placement: support from the lecturer; work readiness workshops; evaluation portfolio requirements; and awareness of the WIL project requirements. Part D of the survey consisted of 15 items, measuring student WIL experience after placement. In this section, students were requested to respond to these statements: support, provided by workplace managers and other em-

ployees in the placement organisation; overall WIL experience; allocation of tasks and responsibilities; experiences with workplace mentors, managers, employees, and others.

Participants responded by selecting their most likely experience as measured by a 5-point Likert scale format: 5=highly rewarding, 4=rewarding, 3=average, 2=disappointing, and 1=highly disappointing. Cronbach's alpha was used to check for the reliability and internal consistency of the instrument. For WIL preparation items, the reliability coefficient oscillates between 0.794 and 0.852, with an overall score of 0.834 for the ten items. The WIL experience reliability score oscillated between 0.854 and 0.891, with the overall Cronbach's alpha score for the construct being 0.872. These reliability scores meet the minimum value (0.60), prescribed as the threshold for the reliability of survey items [31]. These scores confirm that the survey instrument was a reliable scale and was fit to examine the WIL preparation and WIL experience of the selected students.

The procedure for data collection included sending hard copies of the questionnaire to students via the course lecturer. The survey questionnaire was discussed in the WIL preparation workshop, and students were free to pose questions on the WIL project, requirements, and evaluation instrument. The survey was administered to students after they had completed their WIL experience in the selected workplace and had returned to traditional classroom learning. The survey was self-administered, and students were allowed to complete and return their questionnaires within two weeks.

ANALYSIS

Valid data were analysed for descriptive (mean and standard deviation) and inferential (correlation and analysis of variance) statistics using the Statistical Package for Social Science (SPSS) software, version 26.0. This study employed a quantitative approach to analyse the data collected. Two sets of analyses were conducted. Firstly, a 2-tailed correlation analysis was conducted to check the relationship between student WIL preparation and WIL experience. Secondly, a one-way ANOVA to detect variation using demographic characteristics of the students, especially the age group, was conducted. Specifically, the one-way ANOVA was used to test for any significant difference between the mean scores of students within different age groups. For the analysis of variance, data was divided according to only one factor: age [32]. All the assumptions of ANOVA (i.e., the independent variable is nominal and varies in at least two levels; the dependent variable is interval/continuous), normality, homogeneity of variance, and outliers were established before the analysis. The Q-Q plot was used to test if the data were normally distributed. The age of the students was grouped into three categories using percentiles to satisfy the assumption of normality. Age group 19–20 falls under the 25 % percentile, age group 21 falls under the 50 % percentile, and age group 22–25 falls under the 75 % percentile. The Q-Q plots for all three age groups reveal that data points are close to the diagonal line, indicating that the data is linear and normally distributed. The Kolmogorov Smirnov and Shapiro-Wilk tests were conducted to confirm the Q-Q plot results of normality further. **Table 1** presents the statistical results for these tests.

Table 1

Statistics for normality test, WIL Experience

Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	Df	Sig,	Statistics	Df	Sig,
19–20	0.308	5	0.137	0.898	5	0.398
21	0.142	12	0.200*	0.914	12	0.243
22–25	0.124	23	0.200*	0.939	23	0.172

*Note: * – this is a lower bound of the true significance; a – Lilliefors Significance Correction*

Table 1 reveals that the normality tests using Kolmogorov Smirnov and Shapiro-Wilk tests indicate that the dataset, fulfilled the normality assumption as the p-value, is greater than 0.05. The p-values for the dataset as per the Kolmogorov test (p=0.137, 0.200 and 0.200), and the Shapiro-Wilk test (p=0.398, 0.243 and 0.172) are greater than 0.05. Thus, the data is normal since it is not significantly deviated from the normal distribution. The assumption of homogeneity of variance was tested using the Levene test. As indicated in **Table 2,** the results reveal that the study sample

was equal for all groups since the p-value is not significant. Thus, the assumption of homogeneity is fulfilled for this study.

Table 2

Statistics for homogeneity of variance, WIL Experience

Based on Mean	Levene Statistic	df1	df2	Sig.
	2.044	**2**	**37**	**0.144**
Based on Median	1.665	2	37	0.203
Based on Median and with adjusted df	1.665	2	28.413	0.207
Based on trimmed mean	1.903	2	37	0.163

Ethical considerations

The research institution and participants granted consent for conducting the research. The survey was voluntary. The survey was anonymously completed, requesting no student names or student numbers. This ensured the confidentiality of participants and also anticipated more honest responses. Data was stored safely and only accessible to the researchers and WIL project leaders. Quality assurance was undertaken throughout the study to ensure data gathering, analysis, and reporting management.

3. Results

Forty (n=40) valid copies of the questionnaire were analysed from the student cohort. 60 % of the respondents were males, while 40 % were females. In the age distribution, 12.5 % of the respondents were aged 19–20 years, 30 % were aged 21 years, and 57.5 % were between the age of 22–25 years, as indicated in **Table 3**.

Table 3

Participants Profile

Demographic Data	Categories	Percent (N=40)
Gender	Female	40.0
	Male	60.0
Age	19–20	12.5
	21	30.0
	22–25	57.5

One-way ANOVA was conducted for one of the demographic variables, the age of the WIL students. **Table 4** presents the descriptive statistics for the age groups to show the mean, standard deviation, and standard error at the 95 % confidence interval level. The purpose of the description is to compare the mean difference in WIL experiences among three age groups of the WIL students.

Table 4

Descriptive statistics for Student Age and WIL Experience

		WIL Experience			95 % Confidence Interval for Mean			
Age	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
19–20	5	63.80	10.330	4.620	50.97	76.63	47	75
21	12	64.33	4.053	1.170	61.76	66.91	60	73
22–25	23	61.65	9.198	1.918	57.67	65.63	36	75
Total	40	62.73	8.057	1.274	60.15	65.30	36	75

Table 4 reveals that students in the age group of 21 years have better WIL experiences than their counterparts in other age groups. Students in the age group of 21 years scored the highest in mean scores: M=64.33, SD=4.05, suggesting that in terms of skill acquisition and

overall WIL experience, students in this age group had a better WIL experience. With a mean score of 63.80, students between the age of 19–20 reported a better WIL experience than those within the age group of 22–25 years, with a mean score of 61.65. There are variations and differences in the level of WIL experience of the students, depending on their age group. The lesser the standard error, the better the estimate is expected; however, this assumption does not hold in this study as the sample size in the three age groups is not the same.This explains the variation in standard deviation and error, especially between age groups 19–20 and 22–25 years.

Table 5 presents the ANOVA results, revealing that age group may not be a factor in WIL student learning and experience during the placement, provided they are exposed to the same opportunity and resources. The results indicate no significant difference between student age and WIL experience ($p > 0.05$). These results imply that acquiring skills, knowledge and practical experience through WIL placement is not a function of student age; thus, WIL student age is not a barrier to effective WIL projects. This result is consistent with studies by Suleiman [11] and Khampirat and McRae [9], who found that age may not play a significant role in student WIL experiences; instead, student preparation, adequate supervision, and the appropriateness of WIL placement are key factors of WIL project effectiveness.

Table 5

Statistics for One-Way ANOVA on WIL Preparation and Experience

WIL Experience	**ANOVA**				
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	63.291	2	31.645	0.474	0.626
Within Groups	2468.684	37	66.721	–	–
Total	2531.975	39	–	–	–

Table 6 presents the results of the examined relationship between student WIL preparation and their WIL experience. The correlation analysis tested whether adequate student preparation for WIL placement improves overall student WIL experience and vice-versa. According to the WIL project records, during preparation, students are exposed to specific theoretical WIL knowledge and institutional support to equip them to focus on acquiring necessary practical skills during their WIL placement. The effectiveness of the student WIL preparation towards WIL placement was tested as compared to their WIL experience. The correlation result reveals no significant relationship between student WIL preparation and their overall WIL experience. Therefore, WIL preparation does not affect student WIL experience since the p-value is greater than 0.05. Govender and Wait [13] and Reynold et al. [22] reiterate that the effectiveness of the WIL programs and student WIL experiences are dependent on many factors, such as adequate preparation, including awareness; selecting the right organisation; lecturer and institutional supports; information on the purpose of WIL; WIL stakeholder motivation; future talent creation needs; and costing the benefits of WIL for future employability.

Table 6

Pearson correlations statistics between WIL preparation and WIL experience

Construct	**Statistics**	**WIL Preparation**	**WIL Experience**
WIL Preparation	Pearson Correlation	1	0.158
	Sig. (2-tailed)	–	0.330
	N	40	40
WIL Experience	Pearson Correlation	0.158	1
	Sig. (2-tailed)	0.330	–
	N	40	40

4. Discussion

Correlating WIL student demographic characteristics, such as age, with WIL preparation and WIL experience is a gap in the literature and hence was explored in this study. The theoretical literature exploration reveals that WIL stakeholders are called upon to cooperate to support the WIL project as a sustainable approach to reduce unemployment and enhance the work-ready skills of university students. WIL is deemed as an essential component of students learning experience in preparation for a career after graduation; however, measuring its effectiveness in terms of student experiences and outcomes is limited, especially in African countries, such as South Africa. Furthermore, empirical research into how student demographic attributes affect WIL preparation and experience have largely been ignored [20].

WIL is a way to reinforce learning, acquired traditionally from the classroom in the institution of higher learning, and simultaneously develop generic practical workplace skills and competencies in students [22, 29]; thus, the conclusion is that the preparation, experience, and biographical factors must be considered for effective WIL outcomes. In the absence of data and feedback, analytics, and reporting on how adequate preparations and student demographics correlate with their WIL learning experience, it may be difficult for WIL stakeholders, especially educational institutions, to identify trends for effective WIL experiences and to legislate updated policy interventions [5, 8].

This study indicates no statistical difference between the demographic data of WIL student age and WIL experiences in the WIL preparation and workplace experience phases. Findings suggest that certain age group experiences may appear better than other age groups, though not significant. In this study, WIL students within the age group of 21 years had better WIL experiences (M=64.3) compared to WIL students in the age groups of 19 to 20 years (M=63.8) or 22 to 25 years (M=61.6). Findings further confirmed that age is not one of the attributes that could determine the effectiveness of the WIL project in terms of skill acquisition and competency development; hence the age of WIL students is not a panacea for effective WIL experiences. The overall WIL experience of the students does not depend on whether a student is relatively young or older in biological years. This is consistent with the study of Suleiman [11], who concluded that although some demographic and environmental factors, including student age and background, may affect WIL placement, experiences and outcomes. Similarly, this study found that the chances that student age will alter WIL preparation, placement, or experience are relatively low compared with factors, such as the student interaction with workplace managers.

Results indicate that adequate preparation enhances WIL student experiences. WIL preparation workshops create awareness of WIL expectations, identify possible WIL tasks, stakeholders, involved in the WIL project, requirements before, during, and after WIL placement, and WIL assessments. Ordinarily, the more effective the WIL preparation, the better the student WIL experience. As per prior studies, WIL preparation for placement, work tasks, self-efficacy, and career management encourage students to take responsibility for the success of their WIL experiences and assessments [6, 13, 23, 28, 33]. However, findings from this study did not support the above assertion.

The results of this study have significant implications for WIL stakeholders. WIL students are encouraged to prepare for and enjoy their WIL experiences irrespective of their age group or other demographic factors. WIL lecturers and administrators are called upon to adequately prepare WIL students for their WIL placements, experiences, and assessments and consider the demographic profiles of WIL students. WIL managers in the workplace are advised to prepare WIL students for the business environment, expose them to meaningful performance tasks and mentor them to become innovative employees and managers. In the 4IR era, WIL students may consider reverse mentoring to transfer their digital literacy skills and competencies to empower existing employees. WIL policymakers must consider the effectiveness of WIL projects to grow human capital and future talent for the country; hence WIL preparedness workshops and enriching WIL experiences must be factored into existing and future education and employability legislation.

Study limitations include small sample size, discipline-specific dataset, and participants from one African university. These limitations may restrict the generalizability of the results of this

study. Further research is recommended employing a larger sample of diverse disciplines within and across many universities. Mixed method research approaches are recommended to gather richer quantitative and qualitative data that may be triangulated for more in-depth results.

5. Conclusion

A quantitative survey was conducted on WIL students who were prepared for and completed their WIL experiences. The findings highlight that although there could be variations in the level of student WIL experiences, especially among different age groups, age alone as a factor does not influence the effectiveness of the WIL preparation or experiences. The study does affirm the importance of WIL preparation towards better WIL project outcomes and enhanced student experiences. Furthermore, WIL students must contribute to business development by transferring 4IR skills and acumen to existing employees. WIL policymakers and project leaders must consider how WIL student demographic variables may influence WIL preparation and experiences. This paper adds to the body of knowledge on how WIL student demographics may affect WIL student preparedness and WIL experiences. Practically, the paper creates awareness for the benefits of WIL preparedness, experiences, and projects, alerting WIL project leaders to consider all factors that may influence WIL project effectiveness.

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