KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 14 August 2025
Revised 23 December 2025
Accepted 30 December 2025
Initial Publication 30 December 2025
Final Publication 01 April 2026

Journal of Assessment and Research in Applied Counseling

Volume 8, Issue 2, pp 1-13

E-ISSN: 3041-8518

Improving Employability Skills Acquisition of Visually Impaired Students Through Inclusive Career Coaching Progrmme

Liziana. Onuigbo[1], Mkpoikanke Sunday. Otu[2*]

[1] Department of Special Needs Education,University of Nigeria, Nsukka, Nigeria
[2] Department of Educational Psychology, University of Johannesburg, Gauteng, South Africa

*** Corresponding author email address**: mkpoikankeotu@gmail.com

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Onuigbo, L., & Otu, M. S. (2026). Improving Employability Skills Acquisition of Visually Impaired Students Through Inclusive Career Coaching Progrmme. *Journal of Assessment and Research in Applied Counseling, 8*(2), 1-13.
http://dx.doi.org/10.61838/kman.jarac.4922

A B S T R A C T

Objective: This study examined the effectiveness of an inclusive career coaching programme in improving employability skills acquisition among students with visual impairment in Nigerian tertiary institutions.

Methods and Materials: A quasi-experimental design was employed involving 25 visually impaired students purposively sampled from public tertiary institutions in Enugu State, Nigeria. Participants were assigned to either a treatment group (n = 12) receiving the inclusive career coaching programme or a control group (n = 13). Employability skills were assessed at pretest, posttest, and follow-up using a validated and reliable instrument. Data were analyzed using descriptive statistics and analysis of covariance (ANCOVA), controlling for baseline scores and demographic variables.

Findings: Descriptive statistics indicated marked improvement in employability skills for the treatment group from pretest (M = 35.75, SD = 5.72) to posttest (M = 56.08, SD = 4.27) and follow-up (M = 62.17, SD = 3.19), while the control group showed minimal change. ANCOVA results revealed statistically significant effects of the intervention on posttest ($F(1,8) = 156.43$, $p < .001$, $\eta^2p = 0.951$) and follow-up employability scores ($F(1,8) = 195.84$, $p < .001$, $\eta^2p = 0.961$), indicating both immediate and sustained gains. Gender and age did not significantly moderate the programme's effectiveness.

Conclusion: The inclusive career coaching programme was highly effective in enhancing employability skills among students with visual impairment. These findings suggest that structured, inclusive interventions can foster skill acquisition, improve self-efficacy, and promote socioeconomic participation for this population.

Keywords: *Visual impairment, Employability skills, Career coaching, Inclusive education, Nigeria*

1. Introduction

Despite global and national efforts to enhance educational access for students with disabilities, individuals with visual impairments continue to face significant barriers in acquiring employability skills, securing meaningful employment, and engaging in entrepreneurial activities. Traditional teaching methods, standard curricula, and classroom management practices in tertiary institutions often fail to accommodate the unique needs of these students, limiting their ability to translate academic knowledge into practical workforce competencies. Empirical studies indicate that students with visual impairments frequently demonstrate restricted occupational interests and limited engagement in skill-building activities essential for career readiness ("The Autism Encyclopedia," 2005; Müller et al., 2008). Consequently, they experience reduced employability skills and diminished entrepreneurial intentions, which in turn contribute to disproportionately high unemployment rates compared with their peers without disabilities (Otu & Omeje, 2021). Data from the American Community Survey reveal that employment rates among individuals with visual impairments have historically lagged behind the general population, rising only modestly from 36.3% in 2011 to 44.2% in 2017 (McDonnall & Sui, 2019). These trends underscore the persistent gap between educational attainment and labor market outcomes for this population.

This study is anchored on two complementary theoretical frameworks: the Dreyfus and Dreyfus Skill Acquisition Model (Dreyfus & Dreyfus, 1980) and Ajzen's Theory of Planned Behaviour (Ajzen, 1985, 1991). The Dreyfus and Dreyfus model posits that skill acquisition progresses through five hierarchical stages: novice, advanced beginner, competent, proficient, and expert. Each stage represents increasing levels of proficiency, autonomy, and contextual understanding, suggesting that learners move from rule-based performance to intuitive and adaptive mastery of skills. This model is particularly relevant to employability skills development, as it underscores the importance of structured, guided, and progressively challenging experiences in enabling students to acquire, practice, and consolidate workplace-relevant competencies. In the context of visually impaired students, the model supports the design of interventions that scaffold learning in a stepwise manner, ensuring that skill acquisition is both systematic and accessible.

Ajzen's Theory of Planned Behaviour (TPB) provides a complementary lens by explaining how behavioural intentions translate into actual behaviour. According to TPB, an individual's intention to perform a behaviour is influenced by three factors: attitudes toward the behaviour, subjective norms, and perceived behavioural control. Applied to employability, the theory suggests that students' willingness and motivation to engage in career development activities are shaped not only by their personal attitudes toward skill-building but also by social expectations and their confidence in overcoming barriers. Integrating TPB into this study highlights the importance of addressing both motivational and environmental factors in the design of career coaching interventions for students with visual impairment.

Together, these frameworks provide a comprehensive foundation for understanding both the processes of skill acquisition and the motivational determinants of employability behaviour. The Dreyfus and Dreyfus model informs the structured delivery of skill-building activities, while TPB guides the identification of attitudinal, normative, and control-related factors that may facilitate or constrain students' engagement with employability-enhancing interventions. By combining these theories, the study positions the inclusive career coaching programme to not only develop competencies but also foster behavioural intention and readiness for successful participation in the workforce.

In Nigeria, the challenge is further compounded by the limited implementation of disability-inclusive policies and the absence of effective mechanisms to operationalize the Nigerian Disability Act (2019). While government-led initiatives such as NEEDS, SURE-P, NDE, NYSC, and N-Power aim to enhance employability, their reach often excludes students with visual impairments. The lack of technical support and systematic frameworks has left many graduates dependent on informal or low-skill occupations, undermining self-efficacy, confidence, and social inclusion (Otu, 2025a, 2025b).

Employability skills, encompassing technical, professional, and personal competencies, are essential for successful workforce integration (Otu & Sefotho, 2025; Paadi, 2014). However, tertiary institutions in Nigeria frequently neglect structured skill development in their curricula, leaving students underprepared for labor market demands. For students with visual impairments, this deficit is particularly pronounced, creating both immediate and long-term barriers to career success. Addressing this critical

JARAC
E-ISSN: 3041-8518

gap, the present study investigates the effectiveness of an inclusive career coaching programme in improving employability skills acquisition among students with visual impairments. Specifically, the study aims to examine both the immediate and sustained impact of the programme while exploring potential influences of demographic factors such as age and gender. By targeting skill acquisition and behavioural intention concurrently, the study seeks to provide actionable insights into inclusive interventions that enhance employability, promote self-efficacy, and foster economic participation for students with visual impairment in Nigeria.

Despite the presence of various governmental empowerment policies and programmes in Nigeria, students with visual impairments continue to face significant barriers to employability and economic participation. Many lack essential employability skills necessary to secure gainful employment or engage in entrepreneurial activities. While these policies are laudable in their goals, they often fail to include persons with disabilities, resulting in persistent unemployment, poverty, and marginalization among visually impaired populations.

The lack of a concrete implementation framework has rendered provisions of the Nigerian Disability Act (2019) largely ineffective in facilitating socioeconomic inclusion for people with visual impairments. Technical and institutional support for enforcing the Act remains inadequate, further limiting access to employment opportunities and career development resources. Consequently, many individuals with visual impairment are confined to low-skill, informal occupations, such as baking, where they remain dependent on others for survival. This situation adversely affects their self-worth, self-efficacy, and confidence, while reinforcing societal perceptions of discrimination, injustice, and inequality.

Given these persistent challenges, there is an urgent need for interventions that specifically target the acquisition of employability skills among students with visual impairments. The present study seeks to address this gap by investigating the effectiveness of an inclusive career coaching programme as a means to enhance employability skills, promote self-efficacy, and facilitate greater socioeconomic participation for students with visual impairment in Nigeria.

The primary objective of this study was to examine the effectiveness of an inclusive career coaching programme in improving employability skills acquisition among students with visual impairment. The study further aimed to:

1. Determine the immediate effect of the inclusive career coaching programme on employability skills acquisition among visually impaired students.
2. Assess the sustained effect of the inclusive career coaching programme on employability skills acquisition at follow-up.
3. Explore whether demographic factors such as age and gender influence the effectiveness of the programme on employability skills development.

Research Questions

1. To what extent does participation in an inclusive career coaching programme affect the employability skills of students with visual impairment immediately after the intervention?
2. To what extent are the effects of the inclusive career coaching programme on employability skills sustained at follow-up?
3. Do age and gender moderate the effectiveness of the inclusive career coaching programme on employability skills acquisition among students with visual impairment?

Hypotheses

The following null hypotheses were formulated and tested at the 0.05 significance level:

H01: There is no significant difference in employability skills acquisition between visually impaired students who participate in the inclusive career coaching programme and those who do not, immediately after the intervention.

H02: There is no significant difference in employability skills acquisition between visually impaired students who participate in the inclusive career coaching programme and those who do not, at follow-up.

H03: Age and gender do not significantly moderate the effect of the inclusive career coaching programme on employability skills acquisition among students with visual impairment.

2. Method and Materials

2.1. Research Design

The study adopted a quasi-experimental pretest–posttest control group design with follow-up, aimed at examining the effectiveness of an inclusive career coaching programme on employability skills acquisition among students with visual impairment. This design was considered appropriate given the practical and ethical constraints associated with random assignment in school-based special needs settings.

JARAC
E-ISSN: 3041-8518

Participants were assigned to either a treatment group, which received the Inclusive Career Coaching Programme, or a control group, which continued with regular school activities without exposure to the intervention during the study period. Both groups were assessed at three time points: pretest (baseline), posttest (immediately after the intervention), and follow-up, allowing for the evaluation of both immediate and sustained effects of the programme.

The inclusion of a pretest enabled the assessment of baseline equivalence between groups and facilitated statistical control of initial differences in employability skills. Given the observed baseline variation, particularly in pretest scores, analysis of covariance (ANCOVA) was employed as the primary inferential technique. This approach enhanced internal validity by adjusting posttest and follow-up outcomes for pre-existing differences, while also accounting for relevant demographic variables such as age and gender.

The follow-up component of the design strengthened the study by allowing examination of the durability of intervention effects, which is a critical consideration in employability and career development research, especially among learners with disabilities. By incorporating both short-term and longer-term outcome assessments, the design provided a more robust understanding of how inclusive career coaching influences employability skills development over time.

2.2. *Area of Study*

The study was conducted in public tertiary institutions in Enugu State, Nigeria. Enugu State was purposively selected due to its relatively high concentration of students with visual impairment enrolled in colleges and universities within the state. Many of these institutions have established support structures, including designated centres or units where visually impaired students regularly meet for academic and social support, which facilitated access to participants and coordination of the intervention.

In addition, most public tertiary institutions in Enugu State have special education counsellors or guidance and counselling personnel with experience in supporting students with disabilities. The presence of these professionals provided an enabling environment for the implementation of the inclusive career coaching programme and ensured that the intervention aligned with existing support services within the institutions. Collectively, these contextual features made Enugu State a suitable and practical setting for investigating the effectiveness of an inclusive career coaching programme on employability skills acquisition among students with visual impairment.

2.3. *Population of the Study*

The population for this study comprised all students with visual impairment enrolled in public tertiary institutions in Enugu State, Nigeria. These institutions include universities, colleges of education, and polytechnics that maintain specialized support services or centers for students with disabilities. The population is relatively small and specialized, reflecting both the prevalence of visual impairment among tertiary students and the concentration of support resources within the state.

The study specifically focused on students who were actively engaged in academic programs and able to participate in structured career development activities. This population was deemed appropriate for examining the effectiveness of an inclusive career coaching programme, as these students face unique barriers to employability skill acquisition and can directly benefit from interventions designed to enhance career readiness.

2.4. *Sample and Sampling Technique*

The study sample comprised 25 university students with visual impairment drawn from public tertiary institutions in Enugu State, Nigeria. Participants were selected using purposive sampling, a non-probability technique commonly employed in studies involving specific populations with unique characteristics, such as individuals with visual impairment. This approach was appropriate given the need to identify students who met the inclusion criteria, including documented visual impairment and enrollment in the participating institutions.

To ensure comparability and meaningful evaluation of the intervention, participants were assigned to either the treatment group (n = 12) or the control group (n = 13). Group assignment was conducted to balance demographic characteristics, particularly gender and age, while maintaining feasibility given the relatively small and specialized population. The final sample size reflects both accessibility considerations and the limited population of visually impaired students available in the selected institutions.

The use of purposive sampling allowed the researchers to target participants most relevant to the study's objectives, ensuring that the intervention was delivered to students who

JARAC
E-ISSN: 3041-8518

could meaningfully benefit from the inclusive career coaching programme while providing a clear assessment of its effectiveness on employability skills acquisition.

2.5. Inclusion and Exclusion Criteria

Inclusion Criteria: Participants were eligible for the study if they met the following conditions: (1) they had a documented visual impairment, either partial or total, as recognized by their tertiary institution or relevant educational authority; (2) they were enrolled as full-time students in a public tertiary institution in Enugu State, Nigeria; (3) they were aged from 18 years and above; and (4) they provided informed consent (with parental/guardian consent where required) and were willing to participate in all phases of the study, including pretest, intervention, posttest, and follow-up assessments. These criteria ensured that participants were representative of the target population for whom the inclusive career coaching programme was designed.

Exclusion Criteria: Students were excluded from the study if they: (1) did not have a documented visual impairment; (2) were enrolled in institutions outside Enugu State; (3) had additional severe cognitive or physical disabilities that could impede participation in the coaching sessions; or (4) were unable or unwilling to provide informed consent or complete all components of the study. Excluding such individuals helped maintain the focus on visually impaired students capable of engaging with the intervention, ensuring both ethical and methodological rigor.

2.6. Intervention: Inclusive Career Coaching Programme

The intervention employed in this study was an Inclusive Career Coaching Programme (ICCP) specifically designed to enhance employability skills acquisition among students with visual impairment. The programme was grounded in principles of inclusive education, social cognitive career theory, and strengths-based counselling, with deliberate adaptation to accommodate the learning and psychosocial needs of visually impaired learners.

The ICCP was implemented over a structured period and delivered exclusively to participants in the treatment group, while the control group continued with their regular school activities and did not receive any form of career coaching during the study period.

2.7. Structure and Content of the Programme

The Inclusive Career Coaching Programme consisted of systematic, sequential sessions focused on developing core employability skills relevant to future educational and vocational participation. Key components of the programme included:

1. Self-Awareness and Career Identity Development: Participants were guided to explore their interests, strengths, values, and abilities, with emphasis on recognising personal competencies beyond visual limitations. Activities were adapted to ensure accessibility through verbal instruction, tactile materials, and guided discussions.
2. Career Exploration and Information Access: The programme introduced participants to a broad range of career options suitable for individuals with visual impairment. Emphasis was placed on exposure to role models, discussion of adaptive technologies, and awareness of inclusive career pathways, consistent with evidence that early career exposure enhances aspirations among learners with disabilities.
3. Employability Skills Training: Sessions focused on foundational employability skills such as communication, teamwork, problem-solving, decision-making, adaptability, and goal-setting. Instructional strategies included role-playing, storytelling, guided reflection, and experiential learning methods that did not rely on visual cues.
4. Self-Advocacy and Confidence Building: Participants were trained in self-advocacy skills, including expressing needs, requesting accommodations, and building positive self-efficacy. This component was designed to counteract the low expectations and internalised stigma often experienced by learners with visual impairment.
5. Goal Setting and Career Planning: Learners were supported to set realistic short- and long-term career goals and to develop simple, actionable plans for skill development. This process reinforced agency and future orientation, which are critical predictors of employability outcomes.

Delivery Approach: The programme was delivered through interactive, learner-centred coaching sessions facilitated by trained professionals with backgrounds in counselling, special needs education, and career

JARAC
E-ISSN: 3041-8518

development. Instructional delivery prioritised accessibility and inclusion, employing verbal explanations, tactile learning aids, peer interaction, and individualized support where necessary.

Sessions were conducted in a supportive environment that encouraged participation, collaboration, and reflection. The coaching approach emphasised encouragement, feedback, and reinforcement to foster sustained engagement and learning.

Fidelity and Inclusivity Considerations: To ensure intervention fidelity, the facilitators followed a structured programme guide outlining session objectives, content, and activities. Consistency in delivery was maintained across sessions, while allowing flexibility to respond to individual learner needs. Inclusivity was further reinforced by eliminating visual-dependent materials and ensuring that all activities were accessible to participants with varying degrees of visual impairment.

2.8. Instrument for Data Collection

Data were collected using a structured Employability Skills Assessment Scale (ESAS) (Otu & Sefotho, 2024) designed to measure key employability competencies among students with visual impairment. The instrument comprised 20 items covering core domains of employability relevant to visually impaired learners, including communication skills, self-advocacy, problem-solving, work readiness, interpersonal skills, and career awareness. Items were rated on a 4 point Likert-type scale, with higher scores indicating stronger employability skills. To ensure content and face validity, the instrument was subjected to expert review prior to data collection. Specialists in counselling psychology, special needs education, career development, and visual impairment evaluated the items for relevance, clarity, cultural appropriateness, and alignment with the study objectives. Based on their feedback, ambiguous items were revised and redundant items removed, ensuring that the final version adequately represented the construct of employability skills for visually impaired students. This expert validation process aligns with recommended practices for instrument development in disability and educational research.

Evidence of construct validity was further supported through pilot testing with a small sample of visually impaired students who were not included in the main study. The pilot administration confirmed that items were understandable, accessible, and appropriate for the target population, and that the response format was suitable for participants with visual impairment.

The reliability of the instrument was established using internal consistency analysis. Cronbach's alpha coefficient for the overall scale was $\alpha = .87$, indicating good reliability, suggesting acceptable to strong internal consistency across the employability skill domains. These values exceed the minimum threshold of .70 commonly recommended for research instruments, supporting the instrument's suitability for measuring employability skills in intervention studies.

2.9. Administration Procedure

Prior to data collection, ethical approval was obtained from the relevant institutional authority, and permission to conduct the study was secured from the participating school(s). Informed consent was obtained from school administrators, parents or guardians, and assent was obtained from the students. Participants were assured of confidentiality, anonymity, and their right to withdraw from the study at any stage without penalty.

At baseline, all participants in the treatment and control groups were administered the Employability Skills Assessment Scale as a pretest. Given the visual impairment of the participants, the instrument was administered using accessible formats, including Braille, large print, and oral administration, depending on individual needs. Trained research assistants with experience in special needs education facilitated the administration process to ensure clarity of instructions and consistency across participants, while avoiding any form of coaching or prompting that could bias responses.

Following the pretest, participants in the treatment group underwent the inclusive career coaching programme, which was delivered over a specified intervention period of eight weeks. The programme was implemented through structured coaching sessions focusing on employability skill development, while incorporating inclusive strategies such as individualized goal setting, experiential activities, peer interaction, and adaptive learning materials. Participants in the control group did not receive the intervention during this period but continued with their regular school activities.

Immediately after the completion of the intervention, the Employability Skills Assessment Scale was re-administered to both groups as a posttest, following the same standardized and accessible procedures used at pretest. To examine the sustainability of the intervention effects, a follow-up assessment was conducted four weeks after the posttest. The

JARAC
E-ISSN: 3041-8518

same instrument, administration conditions, and support procedures were maintained across all three testing phases to ensure measurement consistency and reduce procedural bias.

Throughout the administration process, care was taken to create a supportive and non-threatening environment for participants. Data collection sessions were conducted in quiet, familiar settings within the school to minimize distractions and anxiety. Completed responses were securely stored and coded to protect participant identity prior to data analysis.

2.10. Ethical Considerations

This study was conducted in accordance with established ethical principles governing research involving human participants, particularly vulnerable populations such as children and individuals with disabilities. Ethical approval was obtained from the relevant institutional research ethics committee prior to the commencement of the study. Additional permission to access participants was secured from school authorities where the study was conducted.

Informed consent was obtained from parents or legal guardians of all participating students, while age-appropriate assent was obtained from the students themselves. The purpose of the study, procedures involved, potential benefits, and minimal risks were clearly explained using accessible language and formats suitable for learners with visual impairment. Participation was entirely voluntary, and participants were informed of their right to withdraw from the study at any point without any academic or personal consequences.

To ensure inclusivity and fairness, all research instruments and intervention materials were provided in accessible formats, including Braille, large print, and oral delivery where necessary. Reasonable accommodations were made during data collection to ensure that participants could engage fully and comfortably without undue stress or disadvantage. Trained research assistants with experience in special needs education supported the administration process while maintaining professional neutrality.

Confidentiality and anonymity were strictly maintained throughout the study. Participants' identities were protected through the use of coded identifiers, and no personally identifiable information was included in data files, reports, or publications. All collected data were securely stored in password-protected electronic files and locked storage systems accessible only to the research team.

Given the use of a control group, ethical fairness was further ensured by providing participants in the control group with access to the inclusive career coaching programme after the completion of the study. This approach minimized inequity and ensured that no participant was denied the potential benefits of the intervention.

Finally, the study adhered to the principles of beneficence and non-maleficence by ensuring that the intervention posed no physical or psychological harm to participants. The career coaching activities were designed to be supportive, developmentally appropriate, and empowering, with careful monitoring to address any discomfort or concerns that arose during the study. These ethical safeguards collectively ensured the protection, dignity, and well-being of all participants throughout the research process.

2.11. Data Analysis

Data were analysed using appropriate descriptive and inferential statistical techniques to address the study objectives and test the stated hypotheses. Preliminary analyses were conducted to screen the data for accuracy, missing values, and outliers. All cases were retained for analysis, as the dataset was complete and met minimum analytical requirements. Statistical significance was evaluated at the .05 level.

Descriptive statistics, including frequencies, proportions, means, standard deviations, standard errors, and coefficients of variation, were computed to summarise participants' demographic characteristics and employability skills scores across the pretest, posttest, and follow-up assessments. For demographic variables, one-sample proportion tests were conducted to examine whether the observed distributions differed significantly from an expected reference proportion of 0.50. In addition to p-values, 95% confidence intervals for proportions and the Vovk–Sellke maximum p-ratio were reported to provide complementary evidence regarding the strength of support for the alternative hypothesis.

To evaluate the effectiveness of the inclusive career coaching programme, analysis of covariance (ANCOVA) was employed for both posttest and follow-up outcomes. ANCOVA was selected to control for baseline differences in employability skills while increasing statistical power and precision of group comparisons. In each model, group (treatment vs. control) served as the primary independent variable, posttest or follow-up employability skills scores as the dependent variable, and pretest scores as a covariate. Gender and age were included as additional fixed factors,

JARAC
E-ISSN: 3041-8518

and interaction terms were specified to examine whether programme effects varied across demographic subgroups.

Type III sums of squares were used in all ANCOVA models to account for the unbalanced design and to ensure appropriate estimation of main and interaction effects. Effect sizes were interpreted using partial eta squared (η^2p), providing an estimate of the proportion of variance in the dependent variable attributable to each effect after controlling for other variables in the model. In line with conventional guidelines, values of approximately .01, .06, and .14 were interpreted as small, medium, and large effects, respectively, while acknowledging the influence of sample size and study design on effect size estimates.

Assumptions underlying ANCOVA, including linearity between the covariate and dependent variable, homogeneity of regression slopes, and independence of observations, were assessed prior to interpretation of results and were found to be adequately met. The inclusion of interaction terms between group and demographic variables further allowed for explicit testing of differential intervention effects across gender and age categories.

3. Findings and Results

Table 1 presents the demographic characteristics of the 25 visually impaired students who participated in the study. The distribution of participants across the treatment and control groups was nearly equal, with 12 students (48.0%) assigned to the treatment group and 13 students (52.0%) to the control group. The proportions did not differ significantly from the reference value of 0.5, as reflected by the p-value of 1.000, and the corresponding 95% confidence intervals indicate substantial overlap. This suggests that group assignment was well balanced, providing a sound basis for comparing outcomes attributable to the inclusive career coaching programme.

Table 1

Demographic Variables

							95% CI for Proportion	
Variable	Level	Counts	Total	Proportion	p	VS-MPR*	Lower	Upper
Group	Treatment group	12	25	0.480	1.000	1.000	0.278	0.687
	Control group	13	25	0.520	1.000	1.000	0.313	0.722
Gender	Male	13	25	0.520	1.000	1.000	0.313	0.722
	Female	12	25	0.480	1.000	1.000	0.278	0.687
Age	18-20 years old	6	25	0.240	0.015	5.951	0.094	0.451
	21-25 years old	6	25	0.240	0.015	5.951	0.094	0.451
	26-30 years old	7	25	0.280	0.043	2.707	0.121	0.494
	31 years old and above	6	25	0.240	0.015	5.951	0.094	0.451

Note. Proportions tested against value: 0.5.

* Vovk-Sellke Maximum p -Ratio: Based on the p -value, the maximum possible odds in favor of H_1 over H_0 equals $1/(-e\ p\ \log(p))$ for $p \leq .37$ (Sellke, Bayarri, & Berger, 2001).

A similar pattern was observed for gender. Male participants accounted for 52.0% of the sample, while females constituted 48.0%. The non-significant p-value (1.000), together with overlapping confidence intervals, indicates that the sample was evenly distributed by gender. This balance reduces the likelihood that gender-related differences could confound the interpretation of the programme's effects on employability skills acquisition.

In contrast, the age distribution of participants showed statistically significant departures from the test proportion of 0.5. Students aged 18–20 years and those aged 25 years each represented 24.0% of the sample, while the remaining age categories accounted for 28.0% and 24.0%, respectively. The associated p-values (ranging from 0.015 to 0.043) and the Vovk–Sellke maximum p-ratios suggest stronger evidence against the null hypothesis of equal proportions across age categories. The 95% confidence intervals for these age groups were also relatively narrow and did not approach the reference proportion of 0.5, indicating an uneven age composition within the sample. General, the demographic profile indicates that the treatment and control groups were comparable in terms of group allocation and gender, supporting the internal validity of the study. However, the uneven age distribution suggests that age may play a role in employability skills development and it is been considered in the interpretation of the effectiveness of the inclusive career coaching programme

JARAC
E-ISSN: 3041-8518

Table 2

Group Descriptives

	Group	N	Mean	SD	SE	Coefficient of variation
pretest	Treatment group	12	35.750	5.723	1.652	0.160
	Control group	13	41.077	5.530	1.534	0.135
posttest	Treatment group	12	56.083	4.274	1.234	0.076
	Control group	13	40.692	6.115	1.696	0.150
followup	Treatment group	12	62.167	3.186	0.920	0.051
	Control group	13	33.154	8.552	2.372	0.258

Table 2 presents the descriptive statistics for the treatment and control groups across the pretest, posttest, and follow-up measurements of employability skills. At the pretest stage, the control group recorded a higher mean score (M = 41.08, SD = 5.53) than the treatment group (M = 35.75, SD = 5.72). The relatively similar standard deviations and coefficients of variation for both groups indicate comparable levels of score dispersion at baseline, although the difference in mean scores suggests that the control group started with a higher level of employability skills prior to the intervention. Following the implementation of the inclusive career coaching programme, a substantial change was observed at the posttest stage. The treatment group's mean score increased markedly to 56.08 (SD = 4.27), reflecting a notable improvement in employability skills acquisition. In contrast, the control group's mean score remained relatively stable at 40.69 (SD = 6.12), showing little change from the pretest. The reduction in the coefficient of variation for the treatment group at posttest suggests not only improved performance but also greater consistency in outcomes among participants who received the intervention.

At the follow-up stage, the treatment group demonstrated further improvement, with a mean score of 62.17 (SD = 3.19). The continued decrease in variability, as indicated by a very low coefficient of variation, implies sustained and consolidated gains in employability skills over time. Conversely, the control group showed a decline in mean score at follow-up (M = 33.15, SD = 8.55), accompanied by increased variability. This pattern suggests both a reduction in skill levels and greater inconsistency among participants who did not receive the inclusive career coaching programme. Thus, the descriptive trends indicate that while the control group initially outperformed the treatment group at baseline, participation in the inclusive career coaching programme was associated with substantial, consistent, and sustained improvements in employability skills among students with visual impairment. These patterns provide preliminary descriptive evidence supporting the efficacy of the programme in enhancing employability skills acquisition, which is directly aligned with the study's objective.

Table 3

ANCOVA - posttest

Cases	Sum of Squares	df	Mean Square	F	p	η^2_p
Group	1558.512	1	1558.512	156.429	< .001	0.951
Gender	7.253	1	7.253	0.728	0.418	0.083
Age	31.468	3	10.489	1.053	0.421	0.283
Group ✻ Age	13.155	3	4.385	0.440	0.731	0.142
Gender ✻ Age	30.691	3	10.230	1.027	0.431	0.278
Group ✻ Gender ✻ Age	43.138	3	14.379	1.443	0.301	0.351
pretest	358.795	1	358.795	36.013	< .001	0.818
Group ✻ Gender	0.003	1	0.003	2.600×10^{-4}	0.988	3.250×10^{-5}
Residuals	79.705	8	9.963			

Note. Type III Sum of Squares

Table 3 presents the results of the analysis of covariance (ANCOVA) conducted to examine posttest differences in employability skills between the treatment and control groups while controlling for pretest scores, gender, and age.

JARAC
E-ISSN: 3041-8518

After adjusting for baseline differences, a statistically significant main effect of group was observed on posttest employability skills, with a very large F value and a highly significant p-value ($p < .001$). The partial eta squared ($\eta^2p = 0.951$) indicates an exceptionally large effect size, suggesting that group membership accounted for the vast majority of the variance in posttest scores. This finding provides strong evidence that participation in the inclusive career coaching programme had a substantial positive impact on employability skills acquisition among students with visual impairment.

The covariate, pretest score, also showed a statistically significant effect on posttest performance ($p < .001$), with a large effect size ($\eta^2p = 0.818$). This indicates that baseline employability skills were a meaningful predictor of posttest outcomes, underscoring the appropriateness of controlling for pretest differences in the analysis. Even after accounting for this influence, the effect of the intervention remained robust, further strengthening the conclusion that the observed improvements were attributable to the career coaching programme rather than to initial skill levels.

In contrast, gender did not have a statistically significant main effect on posttest employability skills, and its associated effect size was small. Similarly, age did not significantly influence posttest outcomes, and none of the interaction effects involving group, gender, and age reached statistical significance. These non-significant interaction effects indicate that the effectiveness of the inclusive career coaching programme was consistent across gender and age categories, with no evidence that its impact differed for specific subgroups. Therefore, the ANCOVA results demonstrate that, when controlling for pretest scores and demographic variables, the inclusive career coaching programme was highly effective in improving employability skills among visually impaired students. The absence of significant demographic and interaction effects suggests that the programme's benefits were broadly applicable across participants, thereby supporting its suitability as an inclusive intervention for enhancing employability skills acquisition.

Table 4

ANCOVA – follow-up

Cases	Sum of Squares	df	Mean Square	F	p	η^2_p
Group	4799.135	1	4799.135	195.840	< .001	0.961
Gender	22.520	1	22.520	0.919	0.366	0.103
Age	65.451	3	21.817	0.890	0.487	0.250
Group ✻ Age	139.977	3	46.659	1.904	0.207	0.417
Gender ✻ Age	102.997	3	34.332	1.401	0.312	0.344
Group ✻ Gender ✻ Age	11.515	3	3.838	0.157	0.922	0.055
pretest	361.957	1	361.957	14.770	0.005	0.649
Group ✻ Gender	17.433	1	17.433	0.711	0.423	0.082
Residuals	196.043	8	24.505			

Note. Type III Sum of Squares

Table 4 presents the ANCOVA results for the follow-up assessment of employability skills after controlling for pretest scores, gender, and age. A statistically significant and very strong main effect of group was observed at follow-up, with a large F value and a highly significant p-value ($p < .001$). The partial eta squared ($\eta^2p = 0.961$) indicates an extremely large effect size, demonstrating that group membership accounted for a substantial proportion of the variance in follow-up employability skills. This finding suggests that the positive effects of the inclusive career coaching programme were not only immediate but also sustained over time.

The pretest covariate remained a significant predictor of follow-up employability skills, with a statistically significant effect and a large effect size ($\eta^2p = 0.649$). This indicates that initial employability skill levels continued to influence later outcomes. However, even after adjusting for these baseline differences, the effect of the intervention remained dominant, reinforcing the conclusion that the sustained improvements observed in the treatment group were attributable to participation in the inclusive career coaching programme.

Gender and age did not show statistically significant main effects on follow-up employability skills, and none of the interaction effects involving group, gender, and age were significant. This pattern indicates that the long-term effectiveness of the inclusive career coaching programme did not vary by gender or age group. In other words, students

JARAC
E-ISSN: 3041-8518

benefited similarly from the intervention regardless of their demographic characteristics.

Taken together, the follow-up ANCOVA results provide strong evidence that the inclusive career coaching programme produced durable gains in employability skills among students with visual impairment. The persistence of a large and significant group effect at follow-up supports the efficacy of the programme in promoting sustained employability skills acquisition, thereby directly addressing the study's objective.

4. Discussion

The current study examined the efficacy of an inclusive career coaching programme in enhancing employability skills among students with visual impairment. The demographic analysis indicated that the treatment and control groups were well-matched on gender and group assignment, minimizing potential confounding effects (Table 1). Balanced group composition aligns with best practices in intervention research and supports internal validity, providing confidence that observed effects are attributable to the intervention rather than baseline sample imbalances. While the age distribution was uneven, the absence of significant age effects in subsequent models suggests that the programme's impact was consistent irrespective of this variation, similar to prior research emphasizing intervention effects over demographic moderators (Eseadi, 2023).

The descriptive statistics revealed substantial and sustained gains for the treatment group across pretest, posttest, and follow-up assessments. Although the control group began with a slightly higher mean at pretest, treatment participants exhibited marked improvements by posttest and continued to gain at follow-up, accompanied by reduced variability in scores (Table 2). This trend indicates not only immediate skill acquisition following the career coaching but sustained consolidation of employability competencies, suggestive of deeper learning and internalization of skills rather than transient test effects. These descriptive trends are corroborated by the ANCOVA results at both posttest and follow-up (Tables 3 and 4), which revealed exceptionally large group effects ($\eta^2p > .95$) after controlling for baseline scores, gender, and age. Such large effect sizes, while uncommon, are plausible in intensive, targeted interventions where programme content directly aligns with outcomes of interest. In disability and vocational research, intensive, context-specific training (e.g., job search skills training, career mentoring, work-based experiences) often produces stronger effects than more diffuse educational interventions, particularly for populations historically excluded from structured career support systems (Eseadi, 2023; Onyishi, 2024). These findings echo earlier work showing that tailored interventions, especially those that provide both skill development and psychosocial support, significantly enhance job readiness and employment outcomes for people with visual impairment. For example, career-mentoring programs for visually impaired students have been associated with increased confidence, self-efficacy, and practical job search skills, leading to better employment outcomes.

The continued significance of the pretest covariate across both time points underscores the benefit of adjusting for baseline skill differences, as prior proficiency naturally contributes to later performance. Importantly, even after adjustment, the magnitude of the intervention effect remained dominant. This mirrors findings in vocational rehabilitation research where pre-employment support services (e.g., vocational counselling, job exploration training) contribute significantly to competitive employment outcomes for individuals with disabilities when implemented comprehensively (Jetha et al., 2025).

Gender and age did not emerge as significant predictors or moderators of the intervention effect. This is consistent with some prior work suggesting that, when interventions are developmentally and contextually appropriate, demographic variables exert minimal influence on outcomes (Eseadi, 2023). The absence of significant interaction effects supports the inclusive design of the coaching programme, indicating its broad applicability across diverse participants within the visually impaired student population. Such generalizability is a valuable characteristic of inclusive interventions and aligns with calls in the literature for scalable, adaptable programmes that respect individual differences while delivering generalized benefits (Onyishi, 2024).

Beyond statistical significance, the sustained improvements documented at follow-up are particularly noteworthy. Many vocational interventions produce short-term gains that diminish over time; however, in this study, treatment participants continued to improve, which may reflect the programme's emphasis on metacognitive skills, self-advocacy, and sustained career planning. This resonates with findings from longitudinal transition research, which highlights the importance of early and continuous support such as career exploration, job exposure, and mentoring to

JARAC
E-ISSN: 3041-8518

foster long-term employability and reduce unemployment among individuals with visual impairments (Cavenaugh & Giesen, 2012).

The results also speak to broader structural and societal issues documented in the literature. Students with visual impairments often encounter systemic barriers to employment, including limited access to career guidance, negative employer perceptions, and insufficient institutional support, that impede transition from education to meaningful employment (Thulani et al., 2024). By demonstrating that a carefully designed inclusive coaching programme can produce large, sustained gains in employability skills, this study contributes empirical support to advocates for early, proactive career support interventions. It also aligns with disability policy objectives that prioritize work readiness, skill development, and labour market inclusion for persons with disabilities. Importantly, the exceptionally high effect sizes observed in this study should be interpreted with caution and contextualized within the intervention's scope and intensity. In educational and vocational research, high η^2p values may reflect the combined influence of a strong intervention effect, reduced within-group variability post-intervention, and a relatively small sample size factors that are well-documented in methodological literature on effect size interpretation.

On the whole, the findings provide robust evidence that an inclusive career coaching programme can produce substantial and sustained improvements in employability skills for students with visual impairments. This extends the existing literature on vocational support interventions and highlights the critical role of structured, inclusive career guidance in bridging the gap between education and employment for this underserved population.

5. Conclusion

This study provides compelling evidence that an inclusive career coaching programme can significantly enhance employability skills among students with visual impairment. Despite beginning with lower baseline employability skills, participants in the treatment group demonstrated substantial, consistent, and sustained improvements at posttest and follow-up, while those in the control group showed minimal change or decline over time. The convergence of descriptive trends and covariate-adjusted analyses underscores the robustness of these findings and supports the conclusion that the observed gains are attributable to the intervention rather than to demographic or baseline differences.

6. Limitations and Suggestions

The exceptionally large intervention effects observed at both posttest and follow-up highlight the potential of targeted, inclusive career coaching to address longstanding gaps in career preparation for visually impaired students. By directly focusing on employability-relevant competencies and providing structured, accessible guidance, the programme appears to have facilitated not only immediate skill acquisition but also the consolidation and maintenance of these skills over time. The absence of significant moderating effects of gender or age further suggests that the programme's benefits are broadly applicable across diverse subgroups within this population, reinforcing its inclusive design.

These findings contribute meaningfully to the growing body of literature advocating for early, structured, and disability-responsive career interventions as a means of improving employment readiness and long-term vocational outcomes for persons with visual impairment. In contexts where visually impaired students have historically had limited access to systematic career development support, such interventions may yield particularly pronounced benefits. While the magnitude of the observed effects should be interpreted cautiously given the modest sample size, their consistency across analytic models and time points strengthens confidence in the programme's efficacy.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

JARAC
E-ISSN: 3041-8518

Funding

This research was funded by TETFUND under Institution-Based Research (IBR) Intervention. The project number is:

TETF/DR&D/CE/UNI/NSUKKA/BR/2024/VOL.IB

Authors' Contributions

All authors equally contributed in this article. All authors equally contributed in this article.

References

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In. https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

The Autism Encyclopedia. (2005). *Reference Reviews*, *19*(7). https://doi.org/10.1108/09504120510622878

Cavenaugh, B., & Giesen, J. M. (2012). A Systematic Review of Transition Interventions Affecting the Employability of Youths with Visual Impairments. *Journal of Visual Impairment & Blindness*. https://psycnet.apa.org/record/2012-19463-002

Dreyfus, S. E., & Dreyfus, H. L. (1980). *A Five-Stage Model Of The Mental Activities Involved In Directed Skill Acquisition*.

Eseadi, C. (2023). Interventions for Supporting Career Transition among Students with Visual Impairments. *Psikoislamika: Jurnal Psikologi dan Psikologi Islam*, *20*(2). https://doi.org/10.18860/psikoislamika.v20i2.24315

Jetha, A., Hossain, S., Navaratnerajah, L., Samosh, D., McCarthy, S., & Bowman, L. R. (2025). Promoting Job Quality and Career Advancement Among Persons with Disabilities During Critical Career Transitions: A Scoping Review of Published Evidence. *Journal of Occupational Rehabilitation*. https://doi.org/10.1007/s10926-025-10335-x

McDonnall, M. C., & Sui, Z. (2019). Employment and Unemployment Rates of People Who Are Blind or Visually Impaired: Estimates from Multiple Sources. *Journal of Visual Impairment and Blindness*, *113*(6). https://doi.org/10.1177/0145482X19887620

Müller, E., Schuler, A., & Yates, G. B. (2008). Social challenges and supports from the perspective of individuals with Asperger syndrome and other autism spectrum disabilities. *Autism*, *12*(2). https://doi.org/10.1177/1362361307086664

Onyishi, C. N. (2024). Exploring Institutional Support Needs for Career Transitioning among Students with Visual Impairments: A Scoping Review. *International Journal of Home Economics, Hospitality and Allied Research*, *3*(1). https://doi.org/10.57012/ijhhr.v3n1.012

Otu, M. S. (2025a). Bridging the gap: Graduate self-perceptions vs. employer expectations of employability skills. In. https://doi.org/10.4018/979-8-3693-4014-1

Otu, M. S. (2025b). Exploration of career coaching programmes for employability skills acquisition. In. https://doi.org/10.4018/979-8-3693-4014-1

Otu, M. S., & Omeje, J. C. (2021). The Effect of Rational Emotive Career Coaching on Dysfunctional Career Beliefs in Recent University Graduates. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, *39*(4). https://doi.org/10.1007/s10942-020-00383-y

Otu, M. S., & Sefotho, M. M. (2024). Increasing graduates' employability skills through rational emotive career coaching. *African Journal of Career Development*, *6*(1). https://doi.org/10.4102/ajcd.v6i1.106

Otu, M. S., & Sefotho, M. M. (2025). Career coaching and employability skills acquisition. In. https://doi.org/10.4018/979-8-3693-4014-1.ch010

Paadi, K. (2014). Perceptions on Employability Skills Necessary To Enhance Human Resource Management Graduates Prospects of Securing a Relevant Place in the Labour Market. *European scientific journal*, *10*(22), 1857-7881. https://files01.core.ac.uk/download/pdf/328024466.pdf

Thulani, M., Davison, M., Charles B, S., & Paula V, M. (2024). The employability of people with visual impairment in Manzini region of Eswatini. *International Journal of Research in Education Humanities and Commerce*, *05*(04). https://doi.org/10.37602/IJREHC.2024.5403

JARAC
E-ISSN: 3041-8518