Factors Influencing Double-Qualified Teachers of Undergraduate Higher Vocational Education: A Pilot Testing

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Abstract

This study investigates the factors influencing 'Double-Qualified' teachers in undergraduate higher vocational education. It conducted a pilot testing phase to assess the reliability and validity of the research questionnaire, ensuring the development of robust research instruments. The reliability testing involved surveying 50 participants and calculating the Cronbach's alpha coefficient, resulting in a high value of 0.989, indicating strong questionnaire reliability and internal consistency. Content validation was performed through expert judgment, with multiple experts in the field assessing the research tool's appropriateness and adequacy, aligning well with empirical standards and enhancing its validity. Construct validation uncovered significant correlations between work culture and various professional attributes, highlighting the influential role of a positive work culture in shaping professional identity, work role demands, personalized learning, self-efficacy, awareness of new roles, knowledge and experience transfer, occupational commitment, work role transition competency, and social support. The successful completion of the pilot study positions this research to contribute significantly to the understanding and support of 'Double-Qualified' teachers in undergraduate higher vocational education. The insights gained are expected to inform policy decisions, improve educational practices, and ultimately enhance vocational education in higher education. Further research in this area has the potential to address the evolving needs of educators in vocational colleges and elevate the quality of higher vocational education.

Keywords: Double-Qualified Teachers; Undergraduate Higher Vocational Education; Professional Identity; Pilot Testing; Reliability Testing.

1.Introduction

In the evolving landscape of undergraduate higher vocational education, the role of double-qualified teachers, who possess both industry experience and pedagogical expertise, has become increasingly significant [1]. These educators are pivotal in bridging the gap between theoretical knowledge and practical skills, thus playing a crucial role in preparing students for the dynamic demands of the workforce. However, the challenges and factors influencing these double-qualified teachers, particularly in the context of undergraduate vocational education, remain under-explored [2].

Double-qualified teachers, by definition, are professionals who not only have academic qualifications in their subject area but also possess relevant industry experience and skills [3]. This unique combination enables them to deliver education that is both theoretically sound and practically relevant. The concept is particularly relevant in vocational education, where the integration of practical skills and theoretical understanding is essential for student success.

The implementation of the "three-in-one" and "double-qualified" teacher team construction at Hunan Modern Logistics College, as explored by [4], undergoes a systematic analysis and comprehensive design. This analysis includes aspects such as construction ideas, standards, results, and final objectives. The study encapsulates the successful experiences from the trinity and double-qualified teacher training model, offering valuable insights for developing similar faculties in other higher vocational colleges.

Reference [5] examine the Electronic and Computer Engineering major at Southwest Petroleum University, summarizing an education model that integrates industry and academia. This model encompasses industry-oriented curriculum system construction, the establishment of an industry-education practice center, and the development of a double-qualified teacher faculty, alongside the governance structure and management system. Their findings serve as a guide for applied universities aiming to achieve synergistic school-enterprise cooperation.

Reference [6] propose the creation of a blended experiential learning mode, centered around "case teaching + virtual simulation experiment + immersive practical teaching + industry-university-research joint training." Using human resource management as a case study, this mode suggests strategies to enhance the construction of a double-qualified teacher team, modernize teaching concepts, refine situational teaching content, and innovate intelligent teaching methods.

Reference [7] develop an evaluation model for assessing teachers' "double-qualified" abilities, comprising 14 indices. This model, using an improved TOPSIS method with a combination of entropy weight-Delphi method for index weighting, blends subjective and objective elements to ensure a more objective, scientific, and reasonable evaluation. It not only addresses the subjectivity of decision-makers but also mitigates common index impact assessment results, and it's applied to a university teacher evaluation system, offering a theoretical and practical framework for constructing a double-qualified teachers' team.

Reference [8] focus on preschool education, proposing strategies for constructing an exemplary team of "double-

qualified" teachers. Their approach is based on the foundation that such construction is crucial for higher vocational colleges to provide high-quality education.

Reference [9] analyzes Nanyang Polytechnic's strategy for cultivating high-skilled, applied talents. They emphasize the importance of aligning curricula with social needs and student development, advocating for project-based teaching and double-qualified teachers to produce highly skilled and capable graduates, thereby significantly contributing to Singapore's economic growth.

Reference [10] identifies existing issues in the performance management system of application-oriented colleges, which hinder the development and training of "double-qualified" teachers. A performance evaluation index system, guided by MBO management thought, is established along with an analysis of the corresponding human resource management support system.

Understanding the factors that influence these educators is vital for several reasons. Firstly, it helps in identifying the challenges they face in the educational environment, which can range from adapting teaching methodologies to align with industry practices to balancing the dual expectations of academia and industry. Secondly, it sheds light on the support and resources needed by these teachers to effectively perform their roles. Finally, insights into these influencing factors can inform policy decisions and institutional strategies aimed at enhancing the quality of vocational education.

2.Research Objectives

The primary objective of this pilot study is to assess and refine the research methods and instruments intended for a larger-scale investigation into the factors influencing double-qualified teachers. This preliminary phase is crucial for ensuring the feasibility, reliability, and validity of the research design. It aims to:

1. Test the research methodology and instruments in a smaller, controlled setting.
2. Identify potential issues and challenges in the research procedure.
3. Make necessary adjustments to the research design based on the pilot findings.

3.Methodology

3.1.Pilot Testing Procedures

The pilot study, a preliminary phase conducted before the main research, plays a vital role in ensuring the validity and reliability of the research methodology and instruments. This phase begins with the development of research instruments, such as questionnaires, interview guides, or observation checklists, which are meticulously crafted to align with the study's objectives. These tools undergo a preliminary review by a team of experts or peers, who provide initial feedback on their content, relevance, and comprehensibility, ensuring they are well-suited for the study's goals.

Selecting an appropriate pilot sample is the next critical step. In this study, 50 participants were chosen, a number

deemed sufficient for obtaining meaningful insights without overwhelming the study's resources. This sample size is carefully considered to reflect the diversity of the larger population involved in the main study, thereby ensuring that the findings are broadly applicable.

Once the participants are selected, the pilot study commences with the administration of the research instruments to the sample group. This process could involve various methods, including distributing questionnaires or conducting interviews, as planned for the main study. During this phase, researchers meticulously observe and document the process, paying close attention to any issues in the administration or participant engagement. They also gather feedback from participants regarding their understanding of and experience with the research tools, which is crucial for assessing the clarity and effectiveness of the instruments.

A key aspect of the pilot study is conducting a reliability analysis using Cronbach's Alpha. This statistical tool measures the internal consistency of the instruments, determining if the items in a questionnaire or scale reliably measure the same construct. A high Cronbach's alpha score, generally above 0.7, signifies good internal consistency, indicating that the instruments are reliable. Conversely, a lower score would necessitate revisions to improve the instruments' reliability.

In addition to reliability, the clarity and comprehensibility of the research instruments are thoroughly evaluated. Feedback from participants about the understandability of the questions and the suitability of the research setting is analyzed. Any ambiguous or confusing elements identified in the instruments are noted for revision.

The research setting itself is also reviewed to ensure its appropriateness for the study. This involves assessing whether the physical or logistical setup of the pilot study was conducive to effective data collection and whether it could be effectively replicated or improved for the main study. Researchers make the necessary adjustments to accommodate any practical challenges encountered during the pilot phase.

Based on the outcomes of the reliability analysis, participant feedback, and the review of the research setting, necessary adjustments are made. These refinements can include tweaking the research instruments or revising the overall methodology, including data collection and analysis techniques.

Finally, all findings, observations, and adjustments from the pilot study are meticulously documented. This comprehensive documentation serves as the foundation for finalizing the instruments and methodology for the main study. By rigorously following this systematic approach, the study ensures that its research instruments and methodologies are not only theoretically sound but also practically applicable and understandable to the participants. This diligence enhances the validity and reliability of the overall study, setting a solid foundation for the main research phase.

3.2. Questionnaires Design

The effectiveness of our data collection instruments was rigorously established through a comprehensive process of pilot testing and expert evaluation, thereby ensuring the reliability and validity of the tools employed for this study. We meticulously conducted a pilot test with a sample that closely mirrored our target participants,

guaranteeing that they could easily understand and respond to the questionnaire without requiring additional clarifications. For closed-ended questions, we thoughtfully provided an extensive list of response categories to cover a wide range of possibilities. Furthermore, great care was taken to avoid any inadvertent omissions of critical information by thoroughly reviewing spelling and formatting. This pilot study was meticulously designed and executed in a manner consistent with the main survey's methodology, enabling us to identify and rectify any issues, including inadequate responses, thus elevating the overall quality of our research.

In addition to these measures, we also prioritized ethical considerations by seeking informed consent from all participants through the cover letter. Upholding the principles of ethical research, we ensured that respondents voluntarily and willingly agreed to participate in our study, demonstrating their commitment to contributing to the research process.

The questionnaire employed in this study was adapted from validated sources, as elaborated in Table 1. All the questions were standardized and thoughtfully organized to enhance respondent comprehension and facilitate a smooth flow throughout the survey. This meticulous approach was undertaken to guarantee the questionnaire's reliability and effectiveness in collecting pertinent data for our research, aligning it seamlessly with the goals and objectives of this study.

In this study, the questionnaire has been derived from a carefully curated selection of thoroughly validated sources. Table 1 offers a comprehensive presentation of the questionnaire, while Table 1 shows an outline of the research instruments, accompanied by their respective sources. All questions within the questionnaire have been methodically standardized and structured to ensure that respondents can readily comprehend and navigate through the survey.

Table 1: Questionnaires Sources

Questionnaires Sources

Authors	Research Title	Variables
Musah e tal (2014). [11]	An Empirical Validation of Excellent Work Culture Scales: Evidence from Selected Established Higher Education Institutions in West Malaysia.	Work Culture
Wong & Liu (2022). [12]	Evaluating the teacher professional identity of student teachers: Development and validation of the teacher professional identity scale.	Professional Identity & Self-efficacy

The process of crafting the questionnaire is a structured and methodical endeavor. It entails a series of well-defined steps aimed at ensuring the questionnaire is tailored to the specific needs of this study.

Initially, we establish the precise goals and objectives of the research. This step is essential for customizing the questionnaire to align seamlessly with the unique characteristics of the respondents.

After designing the questionnaire, the next crucial step is identifying the target respondents, who, in this case, are educators with dual qualifications. Careful selection of appropriate respondents is vital to ensure the questionnaire collects relevant information. The statements within the questionnaire are then meticulously customized to match the characteristics and cognitive abilities of these respondents, thereby ensuring clarity and ease of response.In the third phase, we meticulously draft statements for the survey questionnaire. During this process, we pay close attention to the unique characteristics of the respondents. To elicit pertinent responses, these statements are thoughtfully rephrased and subjected to validation through face validity and content validity.In the fourth step, we opt for the development of closed-ended questions. These questions are crafted with a Likert scale format in mind, offering response options that range from "strongly agree" to "strongly disagree." The choice of closed-ended questions is motivated by their suitability for quantitative research due to their efficiency and simplicity for respondents.Subsequently, the questionnaire undergoes evaluation using a limited sample. Specifically, this questionnaire is administered to thirty instructors who possess dual qualifications. The data collected is then meticulously entered into the Statistical Package for the Social Sciences (SPSS). To assess the questionnaire's reliability, we employ the Cronbach's alpha coefficient. Furthermore, to validate the surveys, we conduct a Pearson correlation validity analysis. Any questions found to be irrelevant, implausible, or invalid are systematically eliminated based on the findings of these reliability and validity tests.The final stage involves preparing the definitive version of the questionnaire. During this phase, the researcher ensures that all questions are pertinent, clear, and objective. Once the questionnaire is finalized, careful consideration is given to the optimal approach for online distribution. Subsequently, the collected questionnaires are subjected to comprehensive data analysis.In Table 2, we provide an overview of the total sections and questions for each construct. These sections have been meticulously designed to comprehensively capture information related to various aspects of respondents' work life, professional identity, and workplace experiences. Researchers will leverage this data to gain valuable insights into the factors that influence job satisfaction, performance, and overall well-being within a professional context.

Table 2: Questionaries Sections

No	Section	Total number of Questions
Section 1:	Demographic	5
Section 2:	Work Culture	5
Section 3:	Professional Identity	5
Section 4 :	Work Role Demand	5
Section 5:	Personalized Learning	5
Section 6:	Self-Efficacy	5
Section 7:	New Roles Awareness	5
Section 8 :	Knowledge and Experience Transfer	5
Section 9:	Occupational Commitment	5
Section 10:	Work Role Transition Competency	5
Section 11:	Social Support	5

Demographics Section: This part gathers essential demographic details of participants, such as gender, age,

nationality, educational background, and professional experience. It's crucial for categorizing and understanding the diverse backgrounds of the survey respondents.

Work Culture Section: This section probes into the organizational work environment and culture. It includes questions about the company's values, the general workplace atmosphere, and employees' perceptions of their organizational culture.

Professional Identity Section: Here, the focus is on how individuals view themselves as professionals in their fields. This involves evaluating their professional self-concept, pride in their career, confidence in their abilities, and adherence to professional ethics.

Work Role Demand Section: Respondents reflect on their job roles and associated pressures. This includes exploring their professional identity's significance, the value of their role, and their ease in representing their profession.

Personalized Learning Section: This part gauges individuals' eagerness and motivation for personalized learning and career development. It assesses their enthusiasm for new learning opportunities, commitment to personal growth, and accountability for their learning journey.

Self-Efficacy Section: Self-efficacy is about believing in one's ability to accomplish tasks and reach goals. This section evaluates participants' confidence in their job skills, their resilience in facing challenges, and their aptitude for acquiring new competencies.

New Roles Awareness Section: This section concentrates on respondents' comprehension of their roles and responsibilities within their organization. It examines their understanding of role expectations, the training they've received, and how their role aligns with the organization's objectives.

Knowledge And Experience Transfer Section: Here, the focus is on participants' grasp of their job's requirements and qualifications. It also delves into their awareness of industry trends and their confidence in fulfilling their job duties.

Occupational Commitment Section: This section measures individuals' allegiance and dedication to their career. It explores their long-term career aspirations, willingness to sacrifice for career progression, commitment to continuous learning, and the significance of their occupation in their personal life.

Work Role Transition Competency Section: This part assesses individuals' readiness and ability to adapt to changes in their job roles. It covers adaptability, skill development, comprehension of new role expectations, and the support provided during role transitions.

Social Support Section: This final section evaluates the level of support and teamwork in the workplace. It inquires about the assistance received from colleagues, collaborative spirit, the culture of constructive feedback, and the general comfort in seeking help from peers.

Each section is designed to provide a comprehensive understanding of various aspects related to an individual's professional life, from personal beliefs and attitudes to their interactions and experiences in the workplace. This holistic approach helps in drawing a detailed picture of the workforce, which can be instrumental in organizational development and individual career growth.

3.3.Reliability Testing

In this research, we assessed the reliability of our questionnaire through a pilot study involving 50 participants and by calculating the Cronbach's alpha coefficient. This coefficient measures the internal consistency of the questionnaire items, where higher values indicate better reliability. The overall reliability of the questionnaire was determined by the average reliability values obtained from this pilot study. A Cronbach's alpha value below 0.7 would suggest the need for revisions to enhance the questionnaire's reliability. Additionally, the pilot study provided an opportunity to identify and rectify any unclear or ambiguous questions, thereby ensuring more accurate results. In this research, the reliability test yielded a Cronbach's alpha of 0.9875 which is significantly higher than the threshold of 0.7, indicating that the questionnaire's scales possess strong internal consistency and reliability.

Table 3: Reliability Testing for All Constructs

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
WC	196.2650	709.203	.835	.929	.975
PI	194.8225	738.497	.910	.942	.972
WRD	195.3850	708.789	.929	.943	.971
PL	194.4025	755.068	.896	.936	.973
SE	194.5850	758.529	.841	.903	.974
NRA	195.3525	719.898	.948	.963	.970
KET	194.9350	739.936	.915	.923	.972
OC	194.9000	742.346	.924	.950	.971
WTC	195.3525	709.071	.885	.938	.973
SC	195.3800	737.229	.805	.796	.975

The reliability assessments conducted in this study suggest that the questionnaire utilized is generally valid and reliable for data collection. Various statistical measures were employed to evaluate the reliability of scales or constructs within the research (See Table 3).

The findings for each construct are as follows:

1. Work Culture (WC): Cronbach's Alpha value of 0.975 indicates a notably high level of internal consistency and reliability.

2. Professional Identity (PI): Cronbach's Alpha value of 0.972 signifies a substantial degree of internal consistency and reliability.

3. Work-role Demand (WRD): Cronbach's Alpha value of 0.971 suggests a substantial level of internal consistency and reliability.

4. Personalized Learning (PL): Cronbach's Alpha value of 0.973 indicates a significant degree of internal consistency and reliability.

5. Self-efficacy (SE): Cronbach's Alpha value of 0.974 reflects a robust level of internal consistency and reliability.

6. New Role Awareness (NRA): Cronbach's Alpha value of 0.970 indicates a high level of internal consistency and reliability.

7. Knowledge and Experience Transfer (KET): Cronbach's Alpha value of 0.972 demonstrates a robust level of internal consistency and reliability.

8. Occupational Commitment (OC): Cronbach's Alpha value of 0.971 shows a strong level of internal consistency and reliability.

9. Work Role Transition (WTC): Cronbach's Alpha value of 0.973 indicates a robust level of internal consistency and reliability.

10. Social Support (SC): Cronbach's Alpha value of 0.975 signifies a notably high level of internal consistency and reliability.

All of the constructs in the study exhibit Cronbach's Alpha values exceeding the commonly accepted threshold of 0.70 for internal consistency reliability[13] These findings affirm the robustness and reliability of each construct in consistently measuring their intended aspects. It is important to consider the specific research context and the psychometric properties of the scale when interpreting these results to ensure the appropriateness of the findings.

3.4. Content Validation

Content validation, as outlined by Escobar-Pérez & Cuervo-Martínez (2008), is a methodical approach in research that involves the utilization of expert judgment to assess the appropriateness and adequacy of a research tool. This process consists of several key elements:

1. **Selection of Experts**: It requires gathering evaluations from individuals who are not just knowledgeable but also widely recognized in their respective fields. These experts are considered authorities due to their extensive experience and the respect they command among their peers.

2. **Nature of Expert Assessment**: The experts are asked to provide their well-informed assessments on various aspects of the research tool. This includes offering insights based on their experience, presenting evidence that may support or refute aspects of the tool, providing appraisals of its effectiveness, and making evaluations about its overall suitability.

3. **Diverse Perspectives**: According to [14], this validation process is not limited to the opinion of a single expert. Instead, it involves soliciting input from multiple experts. This approach ensures a more comprehensive and balanced evaluation, as it incorporates a range of perspectives and judgments about the tool.

4. **Specific Focus of Evaluation**: The experts are asked to focus their judgment not just on the tool as a whole but also on specific facets of it. This could involve assessing how well certain questions are phrased, how effectively the tool measures certain constructs, or the relevance of the tool to the particular field of study.

5. **Empirical Validation**: The process often includes statistical validation, as indicated by the reference to Table 3.4. In this context, the significant correlations at the 0.01 level (2-tailed) suggest that the expert evaluations are not only favourable but also statistically significant. This implies that the experts' assessments align well with empirical standards, further reinforcing the validity of the research tool.

In summary, content validation through expert judgment is a crucial step in ensuring that a research tool is not only theoretically sound but also practically relevant and effective in measuring the intended constructs.

3.5. Construct Validation

In this study, a series of statistical analyses reveal significant insights into the dynamics of work culture and its interplay with various professional attributes (See Table 4). A strong positive correlation (0.713, $p < 0.01$) between work culture and professional identity suggests that the way a workplace's culture is perceived strongly influences the professional identity of its members. Similarly, the demands of an individual's work role are significantly shaped by the organizational culture (0.748, $p < 0.01$).

Further, there is a notable connection between the work environment and employees' inclination towards personalized learning (0.614, $p < 0.01$), indicating that a supportive work culture fosters a desire for personal development. This trend extends to self-efficacy as well, albeit to a slightly lesser degree (0.547, $p < 0.01$), implying that a positive work culture boosts employees' confidence in their abilities.

Remarkably, a very strong positive relationship is observed between workplace culture and awareness of new roles or responsibilities (0.853, $p < 0.01$), which highlights the role of a nurturing work environment in preparing employees for new challenges. The culture of the workplace also plays a significant role in the transfer of knowledge and experience (0.697, $p < 0.01$) and in fostering a strong commitment to one's occupation (0.693, $p < 0.01$).

Competency in transitioning between work roles is another area strongly influenced by work culture (0.711, $p < 0.01$), as is the perception of social support within the workplace (0.788, $p < 0.01$). This indicates that a positive and supportive work culture is crucial in helping employees navigate changes and feel supported by their peers.

Furthermore, the study finds very strong positive correlations between professional identity and various factors like work role demand (0.841, $p < 0.01$), personalized learning (0.834, $p < 0.01$), self-efficacy (0.763, $p < 0.01$), and awareness of new roles (0.805, $p < 0.01$). This suggests that an individual's professional identity is deeply

intertwined with their work responsibilities, learning attitudes, self-belief, and adaptability to new situations.

Additionally, the strong positive relationships between professional identity and both knowledge and experience transfer (0.784, $p < 0.01$) and occupational commitment (0.813, $p < 0.01$) underscore the significance of professional identity in fostering a commitment to one's career and in the effective sharing of expertise.

In summary, the study reveals a complex web of interrelationships where work culture significantly impacts various aspects of professional life, including identity, learning, self-efficacy, role adaptability, and support systems. These findings underscore the importance of cultivating a positive work culture to enhance overall organizational effectiveness and employee satisfaction.

Table 4: Pearson Correlation Coefficient

Variable Pair	Pearson Correlation	Significance (p-value)
Work Culture & Professional Identity	0.713**	< 0.01
Work Culture & Work Role Demand	0.748**	< 0.01
Work Culture & Personalized Learning	0.614**	< 0.01
Work Culture & Self-Efficacy	0.547**	< 0.01
Work Culture & New Roles Awareness	0.853**	< 0.01
Work Culture & Knowledge and Experience Transfer	0.697**	< 0.01
Work Culture & Occupational Commitment	0.693**	< 0.01
Work Culture & Work Role Transition Competency	0.711**	< 0.01
Work Culture & Social Support	0.788**	< 0.01
Professional Identity & Work Role Demand	0.841**	< 0.01
Professional Identity & Personalized Learning	0.834**	< 0.01
Professional Identity & Self-Efficacy	0.763**	< 0.01
Professional Identity & New Roles Awareness	0.805**	< 0.01
Professional Identity & Knowledge And Experience Transfer	0.784**	< 0.01
Professional Identity & Occupational Commitment	0.813**	< 0.01
Professional Identity & Work Role Transition Competency	0.689**	< 0.01
Professional Identity & Social Support	0.563**	< 0.01
Work Role Demand & Personalized Learning	0.824**	< 0.01
Work Role Demand & Self-Efficacy	0.831**	< 0.01
Work Role Demand & New Roles Awareness	0.848**	< 0.01
Work Role Demand & Knowledge and Experience Transfer	0.830**	< 0.01
Work Role Demand & Occupational Commitment	0.863**	< 0.01
Work Role Demand & Work Role Transition Competency	0.799**	< 0.01
Work Role Demand & Social Support	0.675**	< 0.01
Personalized Learning & Self-Efficacy	0.832**	< 0.01
Personalized Learning & New Roles Awareness	0.880**	< 0.01

Personalized Learning & Knowledge And Experience Transfer	0.767**	< 0.01
Personalized Learning & Occupational Commitment	0.820**	< 0.01
Personalized Learning & Work Role Transition Competency	0.685**	< 0.01
Personalized Learning & Social Support	0.569**	< 0.01
Self-Efficacy & New Roles Awareness	0.756**	< 0.01
Self-Efficacy & Knowledge And Experience Transfer	0.795**	< 0.01
Self-Efficacy & Occupational Commitment	0.782**	< 0.01
Self-Efficacy & Work Role Transition Competency	0.700**	< 0.01
Self-Efficacy & Social Support	0.623**	< 0.01
New Roles Awareness & Knowledge And Experience Transfer	0.890**	< 0.01
New Roles Awareness & Occupational Commitment	0.869**	< 0.01
New Roles Awareness & Work Role Transition Competency	0.886**	< 0.01
New Roles Awareness & Social Support	0.756**	< 0.01
Knowledge And Experience Transfer & Occupational Commitment	0.914**	< 0.01
Knowledge And Experience Transfer & Work Role Transition Competency	0.868**	< 0.01
Knowledge And Experience Transfer & Social Support	0.702**	< 0.01
Occupational Commitment & Work Role Transition Competency	0.902**	< 0.01
Occupational Commitment & Social Support	0.720**	< 0.01
Work Role Transition Competency & Social Support	0.755**	< 0.01

4.**Research Results and Discussion**

Pilot testing in this context serves multiple purposes. It allows for the evaluation of the research technique's effectiveness and the dependability of the research instruments. This process is crucial in determining whether the questions and methods used are easily understandable and appropriate for participants, and whether the research environment is conducive to obtaining accurate and reliable data. The insights gained from this pilot study will not only refine the research approach for the main study but also contribute to the broader understanding of conducting effective research in the field of educational studies.

By establishing a solid foundation through this pilot study, the research aims to provide valuable insights into the dynamics influencing double-qualified teachers in undergraduate higher vocational education, thereby contributing to the enhancement of educational practices and policies in this vital sector.

The pilot study's successful completion signifies a crucial milestone in the larger research project. It has enabled the refinement of the research methodology and instruments, ensuring that they are aptly designed to capture the nuances of the factors influencing double-qualified teachers in undergraduate higher vocational education. The high reliability scores indicate that the questionnaire is a robust tool for collecting relevant data.

The comprehensive approach, encompassing the meticulous design of the questionnaire, careful selection of participants, thorough testing for reliability, and the adjustments made based on feedback, positions this research

to make significant contributions to understanding and supporting double-qualified teachers. This pilot study not only validates the research tools but also enhances the overall quality and credibility of the forthcoming larger-scale study. The insights gained from this research are expected to inform policy decisions and institutional strategies, ultimately contributing to the enhancement of vocational education.

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