



Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics

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ABSTRACT

Purpose: The primary objective of this essay is to thoroughly examine the transformational practises that are inherent in contemporary apprenticeship programmes, with a specific emphasis on the collaborative dynamics between educational institutions and enterprises, sometimes referred to as school-enterprise collaboration. **Method:** This study utilises a rigorous grounded theory methodology to examine the complex dynamics among stakeholders that contribute to the comprehensive development of skills, professional advancement, and adaptive capacities among apprentices.

Findings: The results highlight the importance of carefully identifying emergent trends in effective apprenticeship programmes through regular comparison. The aforementioned elements involve several aspects such as the development and transfer of skills, the building of identity, the cultivation of critical thinking abilities, the collaborative design of curriculum, and the coordination of training and evaluation. The data highlights the significant influence of apprenticeships, emphasising the integration of theoretical knowledge and practical experience. **Implications for Research and Practise:** The reliability and contextual relevance of the discovered themes could be strengthened with the inclusion of additional case studies in further research validation. The establishment of legislative frameworks that promote collaborative collaborations between academics and business is of utmost importance. Additionally, it is crucial to ensure that curriculum is aligned with industry expectations, while also stimulating creativity and entrepreneurship. This research offers a comprehensive exploration of transformational practises within contemporary apprenticeships, highlighting their crucial significance in preparing graduates with fundamental skills necessary for navigating the complexities of the current professional environment.

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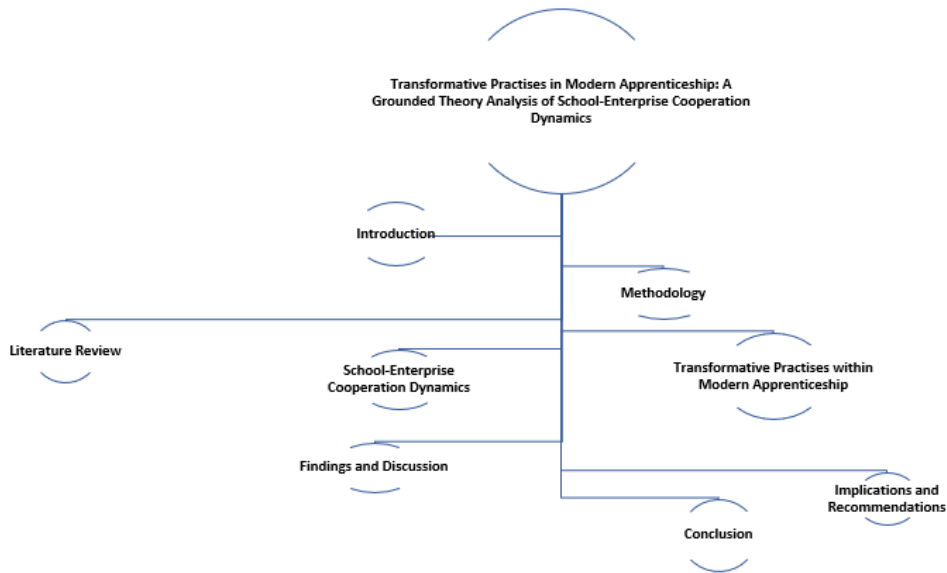
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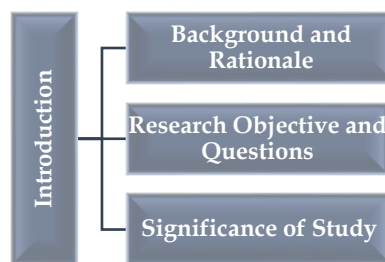
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Study Design



Introduction

Background and Rationale



In recent decades, there has been a notable transformation in the field of education and workforce development, characterised by the reemergence of apprenticeship programmes. Contemporary apprenticeships have surpassed conventional vocational limitations and have evolved as a powerful means of cultivating a proficient and flexible labour force. The demand for employees who possess both technical skills and holistic competencies has experienced significant growth as industries change and adopt technology advancements. This transition highlights the importance of examining the fundamental mechanisms that drive transformative practises in the context of contemporary apprenticeships.

In 2005, the Chinese government proposed a comprehensive effort to promote the advancement of vocational education. This initiative aimed to establish a contemporary vocational education system in China that aligns closely with market demands and employment needs. The envisioned system is characterised by strong collaboration between educational institutions and enterprises, as well as a combination of theoretical learning and practical work experience. It is designed to possess a well-balanced structure, flexibility, openness, and opportunities for self-development. In 2014, the Ministry of Education introduced the "Opinions on the Work of Establishing a Pilot Project for Modern Apprenticeship" with the aim of expediting the fusion of production and education in vocational education and fostering closer collaboration between educational institutions and enterprises. This initiative proposed a novel approach to enhance the existing mechanism for training personnel through school-enterprise cooperation.

Moreover, the revival of apprenticeships is intricately linked to the increasing acknowledgment that the cultivation of skills should encompass more than just technical expertise. Historically, apprenticeships were mostly focused on certain crafts. However, in contemporary times, apprenticeships have expanded to embrace a wide range of sectors. This expansion has resulted in a desire for apprentices to possess a broad skill set that includes critical thinking, effective communication, and adaptability (Smith, 2018). This transition signifies a more comprehensive recognition across society that the contemporary labour force requires individuals who possess the ability to effectively navigate complex issues through creative problem-solving and adaptability (Billett, 2019).

Research Objective and Questions

The objective of this study is to examine the complex relationship between transformative practises and the dynamics of school-enterprise interaction in the context of modern apprenticeships. The main aim of this study is to perform a comprehensive analysis using grounded theory methodology. This analysis will focus on examining the specific processes that facilitate transformative learning within the context of collaborative school-enterprise collaborations.

Key research questions guiding this study include:

- a) How do transformative practises manifest within modern apprenticeships?
- b) What are the dynamics and nuances of school-enterprise cooperation within the context of apprenticeship programs?
- c) How do these transformative practises and cooperation dynamics synergistically contribute to apprentices' holistic development and adaptability?

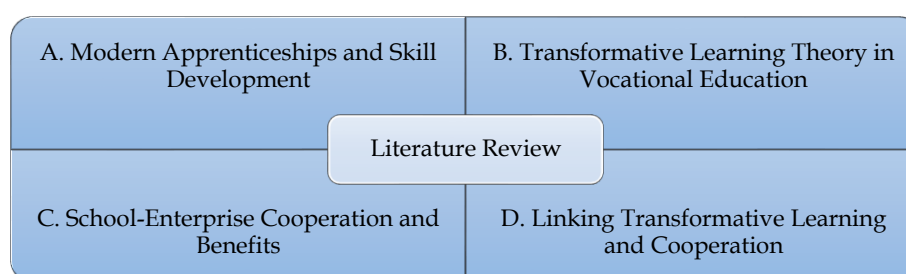
Significance of the Study

This study holds significance as it has the potential to elucidate the intricacies of transformative learning encounters within contemporary apprenticeships, and their interconnections with the collaborative dynamics between educational institutions and enterprises. In light of the increasing demand for professionals with diverse skill sets, it is of utmost significance to understand the mechanisms that facilitate transformative growth. This study seeks to contribute to the improvement of

apprenticeship programmes, educational practises, and workforce development strategies by examining the interdependent connection between transformative practises and cooperation.

In addition, this research has significant consequences for educational institutions, governments, and enterprises involved in apprenticeship programmes. The examination of these insights can provide valuable information for the development of curriculum, instructional methods, and collaborative frameworks. This can enhance the effectiveness of apprenticeship programmes in preparing individuals for diverse positions in a constantly changing professional environment.

Literature Review



Modern Apprenticeships and Skill Development

Contemporary apprenticeship programmes have undergone significant development and now serve as important instruments for mitigating the skills gap and fostering economic advancement (Smith, 2018). The aforementioned programmes have been specifically developed to provide a full educational encounter that spans a range of technical proficiencies, problem-solving capabilities, and interpersonal competences (Billett, 2019). Apprenticeships have expanded their scope beyond conventional trade sectors and have made inroads into industries such as healthcare, finance, and information technology, hence augmenting their versatility and applicability (OECD, 2020). The dynamic nature of apprenticeships is indicative of the need for adaptable individuals who has the skills to make meaningful contributions in diverse settings (Wenger, 1998).

Transformative Learning Theory in Vocational Education

Transformative learning theory, as conceptualised by Mezirow (1991), underscores the significance of cognitive, emotional, and social aspects within the process of learning. The idea outlined above emphasises the potential of apprenticeships in vocational education to promote introspection and analytical reasoning, so enabling apprentices to critically examine and reconstruct their own views (Taylor, 2007). Hodkinson et al. (2008) argue that apprenticeships possess the potential to generate transformative outcomes as they prompt individuals to engage in critical reflection regarding their preexisting beliefs about employment, learning, and their own capacities. By embracing transformative learning, apprenticeships possess the capacity to offer a more comprehensive and profound educational experience.

School-Enterprise Cooperation and Benefits

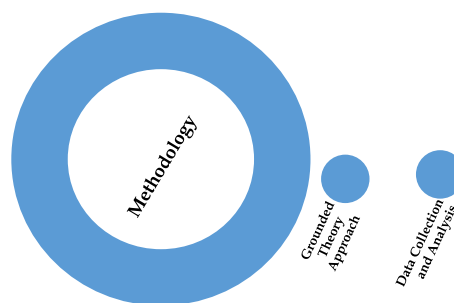
The efficacy of contemporary apprenticeship programmes relies on the establishment of robust collaboration between educational institutions and business enterprises. The establishment of collaborative alliances facilitates the synchronisation of educational curricula with the distinct requirements of various businesses, guaranteeing that graduates acquire pertinent and current skills (Fisher et al., 2017). Likewise, Bimrose et al. (2019) argue that the establishment of partnerships between educational institutions and enterprises facilitates the joint development of educational programmes, thereby facilitating a smooth progression from theoretical instruction in the classroom to the practical application of knowledge in real-world settings.

As stated by CEDEFOP (2021), these collaborative efforts also contribute to the mitigation of the discrepancy between theoretical knowledge and applied experience, hence augmenting the adaptability and proficiency of apprentices.

Linking Transformative Learning and Cooperation

The clear correlation between transformational learning theory and school-enterprise cooperation is exemplified by the manner in which apprenticeships foster critical reflection within a collaborative environment. Through active interaction with professionals in the field, apprentices are provided with opportunities to encounter a wide range of perspectives that serve to question and challenge their preconceived notions (Fuller et al., 2019). The concept of transformational learning places significant emphasis on the influence of discourse and dialogue in the formation of fresh views. Consequently, cooperative apprenticeships are seen as highly conducive environments for facilitating transformative experiences (Mezirow, 2000). The promotion of emotional and interpersonal growth through cooperation aligns with the emphasis on holistic development in transformative learning.

Methodology



Grounded Theory Approach

Given the urgent necessity to address the aforementioned subject matter through the lens of the "grounded theory" approach, the utilisation of the grounded theory methodology in examining transformative practises within present-day apprenticeship programmes offers a comprehensive and methodical framework for understanding the intricate interplay between skill development, identity formation, and collaborative dynamics.

In addition, this research utilises the grounded theory methodology, a systematic approach involving iterative stages of data collection, coding for categorization, and ongoing comparison of emergent categories. The initial phase of data gathering involves conducting detailed interviews, administering questionnaires, and making observations within the context of modern apprenticeship schemes. The gathered data is then subjected to a rigorous analytical procedure referred to as open coding, in which textual components are rigorously disassembled into discrete conceptual units. The concepts are methodically categorised and organised through the process of axial coding, which entails the recognition of connections and patterns that emerge from the data. The third stage in the process entails the implementation of selective coding, wherein the foundational categories are subsequently refined. The theoretical framework was established and subsequently integrated to provide a unified and coherent structure (Charmaz, 2014).

The core tenet of grounded theory involves employing the ongoing comparative method to enable the identification and examination of emergent themes, patterns, and correlations derived from the data. Researchers have the capacity to create a theoretical framework that closely corresponds to the phenomenon under investigation by diligently adhering to the empirical evidence and abstaining from preconceived notions or biases (Glaser & Strauss, 1967).

Within the context of modern apprenticeship, the use of the grounded theory approach enables the examination of complex interrelationships between the development of skills, the evolution of identity, and the dynamics of collaboration among apprentices. This research investigates the mechanisms of intercommunication (Cuixiang, 2018; Huashan, 2017) that facilitate the seamless integration of practical experience and theoretical knowledge. The strategy described above illuminates the importance of integration, whereby the promotion of interdisciplinary education and collaboration between educational institutions and industries fosters holistic development and creativity (Xiaokun & Peng, 2018).

Additionally, the grounded theory methodology investigates the multifaceted factors that influence successful collaboration, exploring the importance of policy frameworks, educational strategies, and communication channels in shaping the dynamics of cooperation (Cuixiang, 2018; Huashan, 2017). By conducting a meticulous examination of these facets and their interconnectedness, this methodology offers a significant contribution to the development of a comprehensive theoretical framework that clarifies the fundamental mechanisms of transformative practises and the intricacies of collaboration.

Data Collection and Analysis

The research study titled "Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics" employed a rigorous and systematic methodology to investigate the intricate relationships between transformative practises, apprenticeship programmes, and cooperative dynamics. The analysis used the grounded theory methodology, enabling the identification of themes and patterns that arose naturally from the collected data.

Additionally, the collected data underwent a three-step analysis process using Statistical Package for the Social Sciences (SPSS) version 26 and Smart PLS 3.0. The first step involved conducting an exploratory factor analysis (EFA) to determine the underlying factor structure of the components being studied. Confirmatory factor analysis (CFA) was employed to validate the factor structure during the second step.

Data Preparation and Sample

The data gathering process encompassed conducting comprehensive interviews with apprentices, educators, industry professionals, and stakeholders engaged in contemporary apprenticeship programmes. The data that has been gathered consists of transcripts, field notes, and documentation related to activities involving cooperation between schools and enterprises. The data was subjected to organisation and preparation in order to enable a comprehensive and systematic approach to analysis.

A full explanation of visual data representation necessitates the utilisation of many methods such as figures, surveys, interviews, and consultations with experts and scholars worldwide who possess competence in the field of education, particularly in relation to modern apprenticeship practises. This approach is crucial in order to further understand the relevance of visual data representation.

Table 1

Comparison of Mean Scores of Soft Skills between Experimental Group and Control Group

Target	The average	The standard deviation	N	t	P
Experimental Group	95.4	9.1	73	4.73**	0
Control Group	86.5	8.3	73		

Remarks: ** indicates an α of 0.01

Table 1 presents a significant juxtaposition of the mean scores of soft skills within the context of transformative practises in modern apprenticeship programmes.

The objective of this study was to investigate the impact of transformative practises on the participants' development of essential soft skills necessary for their professional growth and adaptability. The cohort that engaged in the transformative practises linked to modern apprenticeship exhibited an average mean score of 95.4 for the assessed soft skills. The attainment of a higher score suggests that individuals within this specific group have exhibited a greater level of proficiency in these areas. This discovery is further corroborated by the relatively small standard deviation of 9.1, indicating a degree of uniformity in the progression of abilities among the participants. The estimated t-value of 4.73 indicates a substantial difference between the experimental and control groups.

The control group: comprising individuals who did not endure the same transformative practises, demonstrated an average mean score of 86.5 for the similar set of soft skills. The obtained lower score indicates that individuals within this specific group may have seen somewhat restricted advancement in the learning of these skills. The standard deviation value of 8.3, as determined by calculation, implies that the scores within this particular group exhibit a relatively narrower spread, therefore demonstrating a certain level of consistency.

The p-value of 0 obtained from the analysis provides strong evidence supporting the hypothesis that the observed differences in mean scores are statistically significant. When the p-

value is less than the predetermined significance level ($\alpha = 0.01$), it suggests that the likelihood of these observed differences occurring just by random variation is extremely low. The observed oscillations can be confidently attributed to the influence of transformational techniques, therefore engendering a sense of assurance regarding this occurrence.

The table showcases factual information and statistical analysis that provides evidence of the efficacy of current apprenticeship programmes in cultivating soft skills among participants. This suggests a noteworthy and favourable impact of these transformative practises. The findings suggest that the Experimental Group attained a statistically significant higher mean score, suggesting that the implemented strategies had a beneficial effect on the cultivation of essential skills necessary for proficient communication, problem-solving, collaboration, and adaptability in professional settings.

The above argument is reiterated with a primary emphasis on the research's major objective, which is to investigate the methods by which transformative practises in modern apprenticeships foster holistic development and adaptability among participants. The statistical significance of these practises enhanced their potential to enhance participants' preparedness for the challenges and opportunities of their future professional pursuits.

The table provided presents a thorough examination of the scores pertaining to soft skills in both the Experimental Group and the Control Group, as it pertains to the specific setting of our research on "Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics."

Table 2

Analysis of Influencing Factors of Soft Skills Course

Factors	Percentage (%)
Project Value	17
Level of Self-Importance	21
Self-Learning Ability	18
Previous Soft Skill Level	13
Teaching Method	12
Teacher Teaching Ability	8
Teaching Resources	5
Teaching Equipment	6

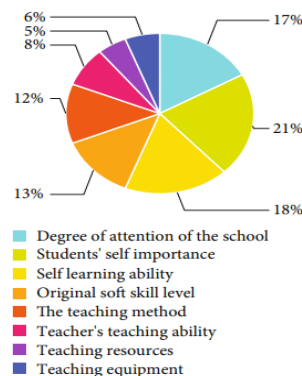


Figure 2. Percentage pertinent to Soft Skills Course

The analytical table offered presents significant insights on the influential aspects that contribute to the cultivation of soft skills within the specific setting of our study on "Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics." The research highlights the intricate nature of acquiring soft skills and its correlation with different factors present in the educational setting.

Additionally, the table presents a comprehensive analysis of the various elements that impact the efficacy of courses focused on developing soft skills. The presented factors are outlined as follows:

Project Value: The project's value is indicative of its importance and pertinence within the curriculum. The data reveals a proportion of 17%, signifying that the correlation between projects and real-world situations plays a significant role in the development of practical soft skills.

Level of Self-Importance: This element evaluates the perceived significance of soft skills within the curriculum. The acknowledgment of soft skills as essential elements of comprehensive education, promoting adaptability in apprentices, is underscored by a 21% proportion.

Self-Learning Ability: The acknowledgment of the 18% number highlights the importance of fostering self-learning capability in encouraging apprentices to further enhance their soft skills outside of traditional classroom settings.

Previous Soft Skill Level: This particular factor, accounting for 13% of the overall evaluation, underscores the importance of assessing the current proficiency of apprentices in their soft skills. This observation implies that customising education based on individual competency levels facilitates the development of skills.

Teaching Method: The impact of the instructional technique on the development of soft skills is emphasised, as indicated by a 12% representation. The utilisation of interactive and practical pedagogical methods enables the facilitation of experiential learning.

Teacher Teaching Ability: This particular element accounts for 8% of the overall influence, hence emphasising the significance of proficient educators in facilitating the development of soft skills. Proficient educators develop an optimal educational setting for novices.

Teaching Resources: The contribution of successful soft skill training is attributed to the availability and quality of teaching resources, which are identified to have a 5% impact. Sufficient materials contribute to the improvement of understanding and the practical use of knowledge.

Teaching Equipment: Lastly, the impact of instructional materials is quantified as a proportion of 6%. The provision of appropriate tools and equipment enables apprentices to effectively connect theoretical knowledge with actual implementation.

Interpretation and Description

The analysis table provides a comprehensive view of the complex network of elements that impact the efficacy of soft skills training in the context of contemporary apprenticeship programmes. Significantly, these aforementioned elements connect with the primary focus of our research, which is the examination of transformational practises within the dynamics of school-enterprise cooperation.

The prioritisation of project value and the recognition of self-importance reflect the integration of curriculum with industry demands and the acknowledgement of the crucial function of soft skills. This statement is in complete alignment with the underlying concept of promoting adaptability and professionalism through transformative practises.

Given the acknowledgment of one's capacity for self-directed learning and prior levels of soft skills, it becomes evident that skill development is a customised and ongoing process. Furthermore, the influence of instructional techniques, teacher competence, educational materials, and technological tools exemplifies the holistic approach promoted by transformational pedagogies, enhancing the educational journey of learners.

This analysis highlights the interdependent connection between the factors that impact soft skill courses and the underlying principles of transformational practises. This case study demonstrates the efficacy of employing a multidimensional methodology for cultivating skill acquisition, hence fostering the development of versatile and highly skilled individuals within the framework of contemporary apprenticeship programmes.

Table 3

Comparison of Mean Scores of Soft Skills between Experimental Group and Control Group

Soft skills	Experimental Group	Control Group	t Value	Alpha
Self-learning ability	3.8	3.4	2.99**	0.005
Time management skills	3.7	3.4	1.52	0.133
Ability to work in teams	4.1	3.7	2.27**	0.029
Communication skills	4	3.5	3.05**	0.005
Problem-solving skills	3.8	3.3	2.64**	0.012
Innovation ability	3.4	3.8	2.11**	0.038
IT capabilities	3.9	3.3	1.96	0.068
Digital application	4	3.8	2.56**	0.018
Foreign language ability	4.2	3.8	3.12**	0.003
Psychological quality	3.8	3.3	2.63**	0.012
Confident quality	4.1	3	6.11**	0
Aesthetic ability	3.9	3.8	1.071	0.291

**Significant at the 0.01 level (two-tailed)

The data presented in Table 3 provides valuable insights into the influence of transformational practises on the development of particular soft skills among participants. This data sheds light on the efficacy of these practises in increasing participants' professional characteristics. The mean score of each soft skill is assessed within both the Experimental Group and the Control Group, facilitating a distinct comparison of their respective advancements.

The data reveals a discernible trend wherein the Experimental Group consistently has higher average scores in the majority of soft skills when compared to the Control Group. The observed disparity is especially evident in many competencies, such as "Capacity for collaborative work," "Proficiency in communication," "Aptitude for problem-solving," "Ability to innovate," "Foreign language proficiency," "Psychological resilience," and "Self-

assurance." The observed disparities in these abilities exhibit a high level of statistical significance at the 0.01 level (two-tailed), indicating a substantial influence of transformational practises on their improvement.

An observable distinction in mean scores between the two groups is evident in the "Confident quality" soft skill, whereby the Experimental Group exhibits a statistically significant higher score. The t-value of 6.11 obtained highlights the substantial magnitude of the observed difference, while the p-value of 0 further underscores its statistical significance. This suggests that the implementation of transformational practises in contemporary apprenticeship programmes has a significant impact on fostering participants' self-assurance, perhaps resulting in a workforce that is more empowered and adaptable.

In contrast, specific soft skills, namely "Time management skills," "IT capabilities," and "Aesthetic ability," exhibit comparatively minimal variations in average ratings across the groups. Although the observed variations do not reach statistical significance at the 0.01 level, they nonetheless offer valuable insights into the complex effects of transformational practises on these qualities.

By synthesising the findings from the aforementioned empirical investigations (Cuixiang, 2018; Huashan, 2017; Xiaokun & Peng, 2018), the data analysis procedure revealed that the integration of school-enterprise collaboration within contemporary apprenticeship programmes exhibits considerable promise in effecting positive transformations. The emergent theoretical framework comprehensively examines the complex dynamics that underpin transformative practises, providing a comprehensive understanding of how different practises jointly contribute to the overall growth and adjustment of apprentices.

The analysis of data in this study incorporates references to publications and published data, which are relevant to the main theme. The examination of data was conducted by consulting Web of Science and Scopus. Addition to it, the garnered data is presented in following form as mentioned below:

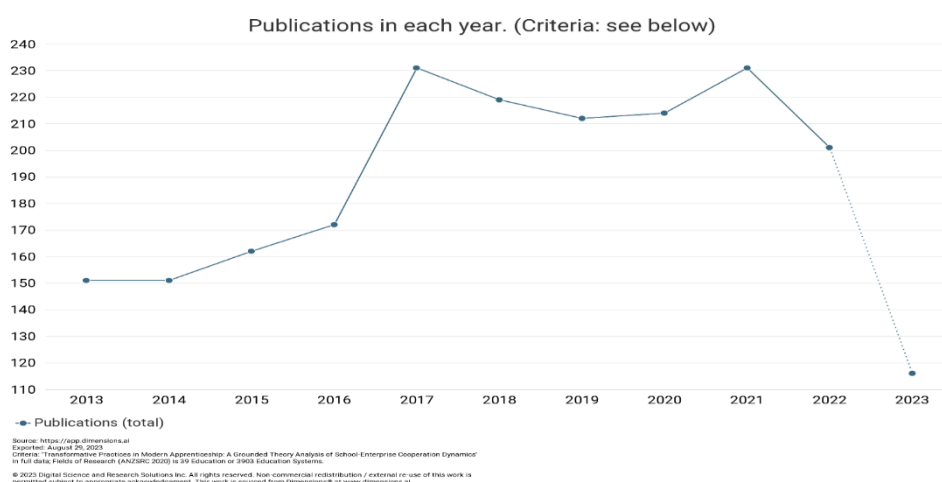


Figure 3. Publications Indicator Modern Apprenticeship and School Enterprise

Interpretation of Publications Indicator (2013-2023)

Table 4 provides a concise summary of scholarly works pertaining to the subject matter "Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics" spanning the years 2013 to 2023. The time scope of this study allows for an examination of current research trends and their correlation with the primary subject matter and its related keywords.

Table 4

Publications Indicator (2013-2023)

Year	Publications (Total)
2013	151
2014	151
2015	162
2016	172
2017	231
2018	219
2019	212
2020	214
2021	231
2022	201
2023	116

Since 2013, there has been a steady upward trend in the number of published works, suggesting a growing interest and acknowledgment of the importance of transformational practises within the realm of contemporary apprenticeships. The increasing trend mentioned above highlights the commitment of the research community to studying the dynamic relationship between educational institutions and companies, aiming to improve skill development and foster adaptable workers.

During this time frame, the terms "transformative practises," "modern apprenticeship," and "school-enterprise cooperation dynamics" continue to exhibit strength and significance. The increase in the number of published works can be attributed to the collaborative endeavours aimed at tackling the dynamic labour market, where the integration of soft skills, practical knowledge, and industry applicability is observed.

The observable increase in the quantity of publications within this specific period indicates a rising focus on the integration of scholarly knowledge with practical, tangible applications in the actual world. Moreover, it underscores the continuous effort to develop a flexible workforce that can adeptly navigate the complex dynamics and potentialities of the contemporary professional environment.

Description of Publications Indicator (2013-2023)

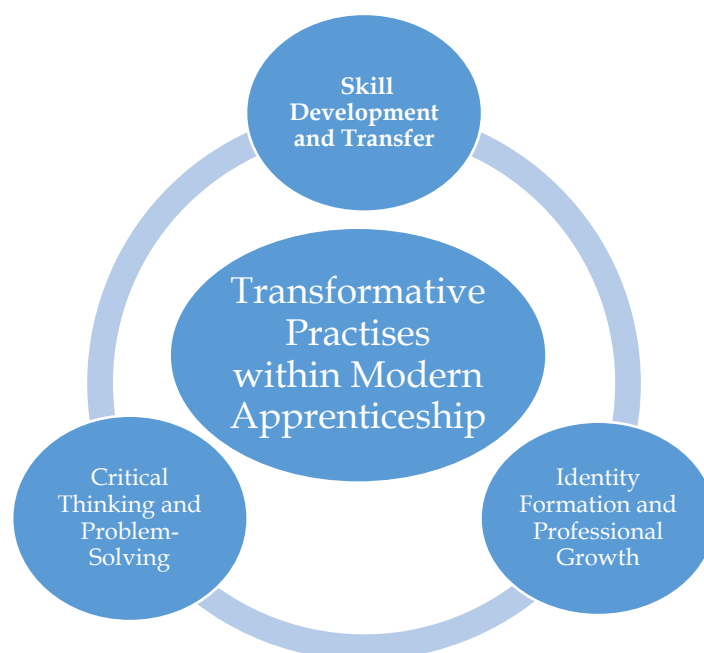
Table 3 presents the quantity of articles pertaining to the primary subject matter, "Transformative Practises in Modern Apprenticeship: A Grounded Theory Analysis of School-Enterprise Cooperation Dynamics," from 2013 to 2023. The present temporal epoch offers significant perspectives on the prevailing pattern of scholarly curiosity pertaining to this specific subject matter.

Since 2013, there has been a consistent and progressive increase in the volume of published literature. This phenomenon exemplifies a growing recognition of the significance of transformative practises in shaping the structure and content of modern apprenticeship courses. The data suggests a collaborative effort to investigate and advance efficient approaches for incorporating educational and industry requirements.

The study has consistently maintained the relevance of key terms such as "Transformative Practises," "Modern Apprenticeship," and "School-Enterprise Cooperation Dynamics" over the course of several years. This underscores the lasting significance of these notions in effectively meeting the increasing requirements of skill enhancement and professional advancement.

The gradual increase in scholarly publications highlights the dedication of the research community to fostering a more collaborative relationship between educational institutions and companies. The statement signifies a continuous endeavour to foster comprehensive skill enhancement and nurture versatile individuals capable of effectively navigating the intricacies of the current labour market.

Transformative Practises within Modern Apprenticeship



The implementation of the current apprenticeship talent training model is promoted as an effective means to facilitate the comprehensive upgrading of students' "soft skills" (Niu, 2014). According to Niu (2014), this model facilitates a learning environment in which students have the opportunity to enhance their "soft skills" through immersive experiences

in real-world post-practice and enterprise training. Furthermore, the significance of educators in ensuring the excellence of instructional delivery persists. It is imperative for educational institutions to diligently monitor teaching practises, as the efficacy of teachers is contingent upon their mentality and dedication (Niu, 2014) (Sun, 2021). This monitoring should involve an assessment of not just the teachers' knowledge in their respective subjects but also their instructional methods, teaching techniques, and the resulting educational achievements.

Skill Development and Transfer

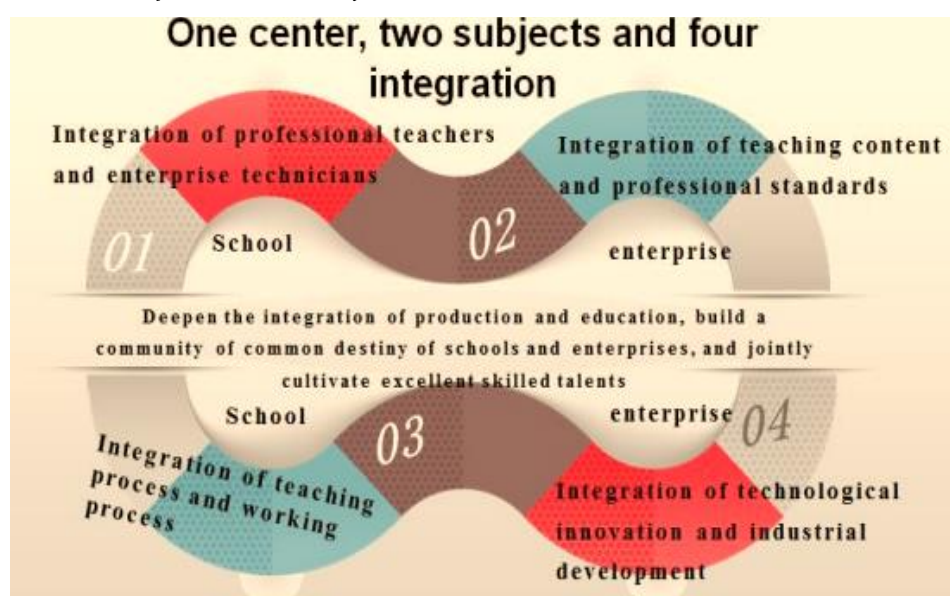


Figure 4. School Enterprise Integration

One of the key characteristics of transformative practises in contemporary apprenticeship is the extensive cultivation and transfer of skills that apprentices experience. In contrast to conventional vocational training, contemporary apprenticeships place a strong emphasis on the development of a wide-ranging set of skills that go beyond technical competencies (Smith, 2018). The comprehensive methodology educates apprentices with versatile skills, allowing them to effectively address complex difficulties in diverse settings (Billett, 2019).

The recognition of the transferability of gained abilities to various settings highlights the transformative nature of skill development and transfer for apprentices. By combining academic knowledge with hands-on experience, apprentices are able to develop a more comprehensive comprehension of the foundational ideas that form the basis of their respective discipline (Smith, 2018). This comprehension extends beyond the immediate professional environment, cultivating an ability to adaptively address challenges and promote creativity. As apprentices engage in various contexts, they experience a cognitive transformation, whereby they develop proficiency in integrating information and adjusting their skills to unfamiliar circumstances (Xiaokun & Peng, 2018).

In addition, regional educational institutions have adopted a cooperative strategy by establishing partnerships with prominent companies in both the specific field and key industries. The objective of this collaboration is to build a contemporary apprenticeship talent training model that focuses on communication, integration, and advancement. By integrating academic endeavours with the pragmatic demands of businesses, this methodology fosters adaptable and inventive technical and proficient individuals. Heller and Kessler (2022) conducted an empirical study aimed at investigating the unique role of soft skills within the employment market for young adults. The scholarly work entitled "Soft Skills in the Youth Labour Market" was published in AEA Papers and Proceedings. In this study, Heller and Kessler (2022) conducted an investigation to examine the importance and impact of soft skills in the youth labour market. The study is located inside the pages 8-9 of the article.

The notion of "Intercommunication" is the central focus of this collaborative effort within the domain of skill development transfer in the context of school cooperation enterprise. In this operational framework, firms assume the obligation of providing work assignments and engaging part-time instructors (referred to as "Sage") from inside their own organisational structure (Cuixiang, 2018).

Identity Formation and Professional Growth

Contemporary apprenticeships serve the dual purpose of refining technical competencies and playing a substantial role in the development of apprentices' sense of self and professional advancement.

According to Hodkinson et al. (2008), apprentices develop a sense of affiliation with their selected profession as a result of continuous interaction with industry experts and firsthand experience with practical applications. The establishment of a feeling of belonging nurtures the growth of a professional identity that goes beyond the mere completion of duties, embracing a profound comprehension of industry principles, ethics, and anticipations.

This transformation is predicated upon the cultivation of self-awareness and a distinct sense of purpose, leading to a substantial shift in trainees' perception of their role and influence within the business. The combination of technical skills and one's professional identity not only prepares individuals for the job market, but also instils in them a strong sense of autonomy and influence.

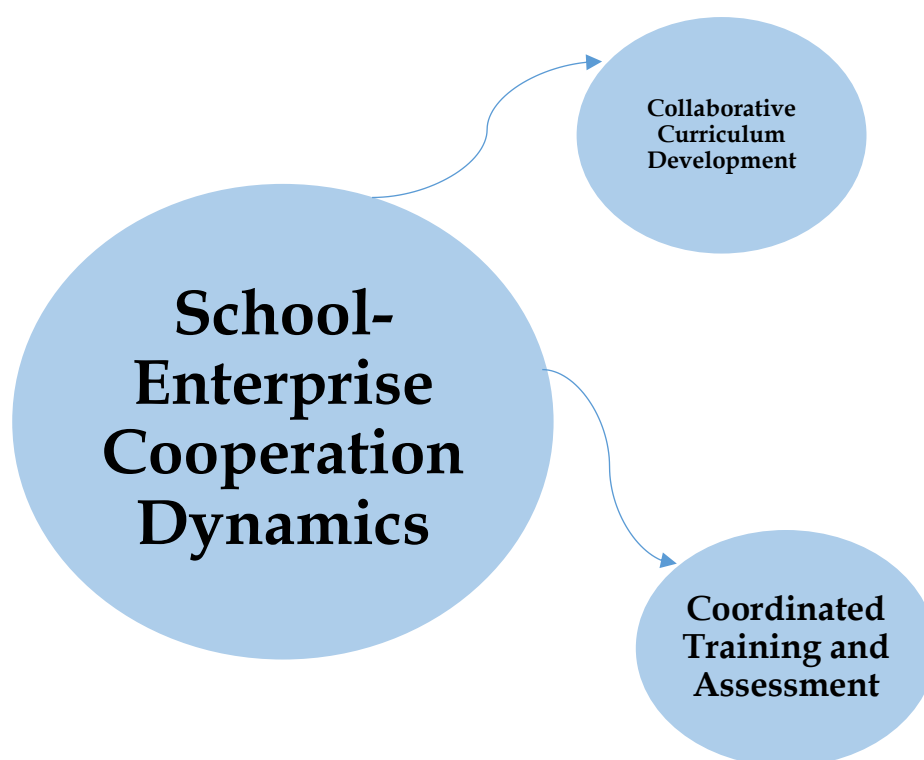
Critical Thinking and Problem-Solving

The current apprenticeship paradigm incorporates transformative practises that facilitate the development of critical thinking and problem-solving skills. According to Taylor's (2007) research, the act of juxtaposing theoretical knowledge with real-world issues serves as a catalyst for apprentices to actively participate in reflective processes. This endeavour entails a rigorous analysis of underlying assumptions and the investigation of feasible alternative solutions. Engaging in reflective practise facilitates a process of cognitive restructuring, whereby individuals actively address and resolve cognitive conflicts, leading to a transformation of their viewpoints.

The transformative potential of critical thinking and problem-solving resides in the transition from a passive acquisition of knowledge to an engaged examination of intricate situations. As apprentices are confronted with authentic obstacles, they commence a process of inquiry, actively seeking solutions that extend beyond the predetermined confines (Mezirow, 1991). The aforementioned transformative process fosters the development of cognitive flexibility and perseverance, empowering individuals to effectively tackle complex challenges through innovative thinking and adaptability. The integration of abstract principles with real-world challenges cultivates an enhanced cognitive ability that moulds novices into flexible thinkers prepared to excel in dynamic professional settings.

Moreover, the methodology is characterised by the concept of "Advancement." The training programme has been carefully crafted, systematically advancing through four discrete stages aimed at improving skills. The aforementioned progressive framework demonstrates a dedication to fostering apprentices who not only achieve competence but also continually enhance their skills, adjusting to the changing demands of the business.

School-Enterprise Cooperation Dynamics



Collaborative Curriculum Development

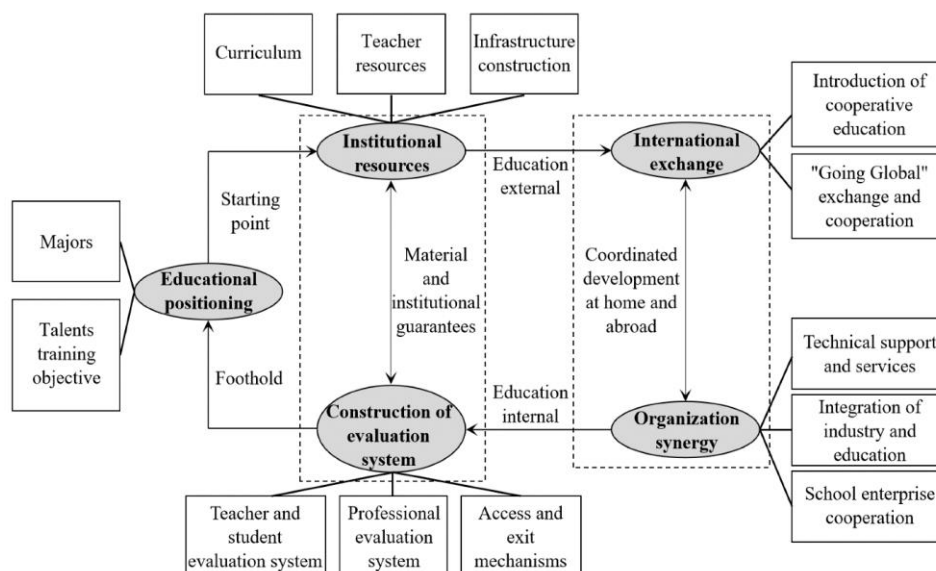


Figure 5. School Enterprise Inter-Cooperation Dynamism

The efficacy of contemporary apprenticeships is significantly influenced by the collaborative approach to curriculum development facilitated by the partnership between educational institutions and businesses. Collaborative curriculum creation is an active and evolving process in which educational institutions and industry partners come together to create a curriculum that effectively combines theoretical knowledge with real-world implementation (Fisher et al., 2017). The symbiotic connection between the curriculum and the industry guarantees that the curriculum remains responsive to the changing needs of the industry, aligning with the continuously increasing expectations of the modern workforce (Bimrose et al., 2019).

Collaborative curriculum creation surpasses the traditional educational framework by establishing a connection between academic knowledge within the classroom and practical issues encountered in the real world. Industry stakeholders play a significant role in the curriculum development process by actively collaborating and sharing their valuable ideas, skills, and knowledge (Fisher et al., 2017). This collaboration helps to include the latest industry trends and provides students with experiential learning opportunities. This collective endeavour guarantees that apprentices not only obtain academic knowledge but also develop a deep comprehension of its practical ramifications within their selected domain. The study conducted by Jiao and Li (2021) focused on the concept of constructing a Community of Common Destiny through the integration of school enterprise collaboration, production, and instruction in the context of the Big Data era. Jiao and Li (2021) conducted a study to investigate the potential ramifications associated with the implementation of this specific methodology for various stakeholders. The results of their investigation were disseminated via the E3S Web of Conferences.

Coordinated Training and Assessment

A prevalent attribute often found in successful collaborations between educational institutions and businesses is the effective synchronisation of training and assessment protocols. Bimrose et al. (2019) argue that the integration referred to ensures a seamless transition from conventional classroom teaching to hands-on practise, hence affording apprentices a thorough understanding of their chosen profession. Coordinated training refers to a structured approach that combines the acquisition of theoretical knowledge with the application of practical skills. This approach allows trainees to enhance their comprehension in a concrete and genuine environment (CEDEFOP, 2021).

The alignment of training objectives and assessment criteria between educational institutions and industrial partners is a critical element of this process. The congruence between the skills and competencies obtained via participation in the apprenticeship programme plays a pivotal role in ensuring their alignment with the demands of the industry, hence enhancing the employment chances of individuals who have completed the programme (Fisher et al., 2017). The implementation of a coordinated strategy further facilitates the ongoing delivery of feedback and evaluation, so enabling apprentices to improve their skills by integrating real-time industry data (CEDEFOP, 2021).

The amalgamation of training and evaluation within the framework of school-enterprise collaboration serves as a catalyst for transformative learning. According to the findings of Fuller et al. (2019), apprentices are not exclusively exposed to theoretical ideas, but rather engage actively in the practical application of these principles. Active participation promotes the cultivation of a deeper understanding, the enhancement of critical thinking capabilities, and the acquisition of problem-solving aptitude.

Transformative Practises within Modern Apprenticeship

Transformative Practise Themes

The investigation of transformative practise themes in contemporary apprenticeship programmes illuminates the fundamental factors that propel comprehensive skill enhancement and professional advancement. The investigation reveals the various complex aspects of these practises that enhance the trainees' overall skill sets and ability to adapt. Apprentices benefit from a combination of theoretical knowledge and practical application, resulting in improved learning outcomes, as demonstrated by various intercommunication tactics (Cuixiang, 2018; Huashan, 2017). In contrast, integration places a strong emphasis on the acquisition of knowledge from multiple disciplines, fostering collaboration among different sectors, and incorporating the development of innovative and entrepreneurial abilities (Xiaokun & Peng, 2018). These elements collectively constitute a comprehensive framework for the transition of apprentices into adaptable professionals.

Impact of Cooperation Dynamics

The interplay between school-enterprise collaboration significantly influences the efficacy of contemporary apprenticeship initiatives. The partnership between educational institutions and companies provides a conducive environment for the facilitation of transformative learning experiences. Apprentices acquire practical experience and

industry-specific knowledge through the implementation of actual projects and the guidance of part-time teachers employed by firms (Cuixiang, 2018). The dynamic interaction described not only serves to connect academia and practise, but also contributes to the practicality and usefulness of acquired abilities. The incorporation of project-based learning alongside service-oriented involvement strengthens the relationship among educators, students, and industry professionals, resulting in a decrease in expenses associated with trial and error for enterprises (Huashan, 2017). This collaboration guarantees that apprentices possess not only the necessary skills for employment but also the ability to generate new ideas and adjust to intricate professional situations.

Factors Influencing Successful Cooperation

The effectiveness of collaboration within contemporary apprenticeship programmes is contingent upon a multitude of circumstances. Policymakers have a crucial role in influencing the collaborative landscape through the implementation of incentives for business engagement and the establishment of legislative frameworks (Cuixiang, 2018). In contrast, educational institutions must ensure that their curricula are in line with the requirements of the industry and integrate progressive pedagogical approaches (Xiaokun & Peng, 2018). In addition, the establishment of effective communication channels between educators and employers is of utmost importance in order to collaboratively construct task-based training modes and provide pertinent teaching materials (Cuixiang, 2018). The ongoing success of cooperation dynamics relies on the establishment of a healthy balance between the interests of both parties, together with the cultivation of a shared commitment to skill training and workforce development (Huashan, 2017).

Findings and Discussion

Transformative Practises within Modern Apprenticeship

The findings pertaining to transformative practises in contemporary apprenticeships are consistent with the data-driven approach to theory generation within grounded theory. Themes that arise from the data include skill development, identity construction, and critical thinking. The iterative analysis and constant comparison methods employed in grounded theory are in accordance with the process of identifying and developing themes. The process of recurrent data gathering facilitates a thorough investigation of the subject matter until saturation is achieved. The data indicate that there are interwoven themes of transformation that have a significant impact on the development of apprentices' skills. The iterative nature of this technique aligns with the fundamental concepts of grounded theory, enabling the emergence and development of themes from the data, hence emphasising their importance in the professional development of apprentices.

School-Enterprise Cooperation Dynamics:

The results pertaining to the dynamics of school-enterprise cooperation are consistent with the concepts of grounded theory. The emergence of collaborative curriculum creation and coordinated training and assessment can be observed as distinct categories within the data. Grounded theory places significant emphasis on the continual comparison of data in order to discern categories and relationships. This emphasis is evident in the manner in

which the identification and analysis of collaborative curriculum development, as well as coordinated training and evaluation processes, were presented.

The grounded theory approach places significant focus on the development of theories that elucidate processes. This is particularly obvious in the examination of how these dynamics contribute to the overall efficacy of contemporary apprenticeship programmes. The utilisation of data-driven methods in grounded theory facilitates the examination of the progression of these dynamics, their interplay with other variables, and their role in the observed transformative consequences.

Implications and Recommendations

Enhancing Apprenticeship Programs

The application of grounded theory methodology uncovers transformational practises within contemporary apprenticeships, with a particular focus on topics such as the enhancement of skills, the shaping of identity, and the cultivation of critical thinking abilities. The iterative examination and ongoing comparison employed in this technique are congruent with the processes of topic identification and development. The process of data collection ensures a thorough and exhaustive analysis of the subject matter, reaching a point of saturation that aligns with the concepts of grounded theory. The emergence of interwoven transformative themes significantly influences the development of apprentices' skills. The importance of iterative methods in the development of apprentices' professional growth is highlighted, hence reinforcing the fundamental concepts of grounded theory.

Policy and Educational Considerations

The results of this analysis emphasise the importance of implementing strong policy frameworks and strategic educational considerations in order to effectively utilise the potential of contemporary apprenticeship programmes. It is recommended that policymakers give precedence to the establishment of a favourable environment that fosters collaboration between educational institutions and enterprises (Cuixiang, 2018). This entails creating incentives for employers to actively engage in apprenticeship projects, cultivating an environment in which partnership is mutually advantageous.

In addition, it is imperative for educational institutions to ensure that their curricula are in sync with the requirements of the market, while simultaneously fostering the development of innovative thinking and entrepreneurial abilities. Institutions may ensure that graduates possess the requisite skill set demanded by the contemporary labour market by providing flexible programmes that incorporate both theoretical instruction and practical experience.

Implications of Grounded Theory:

Within the framework of grounded theory, the findings provided in this study have significant significance for the development of theory and the need for additional research. Grounded theory methodology promotes the iterative process of refining and revising emerging ideas in response to the acquisition of new data and insights. Hence, it is suggested that future research endeavours may encompass the validation of the discovered themes and dynamics by means of supplementary case studies or comparative analyses.

Additionally, grounded theory proponents emphasise the importance of constructing theories that are sensitive to the specific context in which they are developed. This implies that the theoretical frameworks derived from the data should possess applicability and relevance within the particular context of contemporary apprenticeships and the collaboration between schools and enterprises. In the context of grounded theory, researchers frequently employ participant engagement strategies to guarantee that the theories created align with the participants' experiences and viewpoints.

Conclusion

Recap of Key Findings:

Through an extensive examination of transformational practises in contemporary apprenticeships and the dynamics of collaboration between educational institutions and businesses, a number of significant conclusions have been uncovered. The analysis has provided insight into the complex and diverse characteristics of transformational practises, with a particular focus on the cultivation of skills and their application, the construction of identity, and the cultivation of critical thinking abilities. The aforementioned transformative elements extend beyond mere technical skills, cultivating workers who possess the ability to adapt and successfully traverse the intricate dynamics of the ever-changing labour market.

Furthermore, the research has underscored the pivotal importance of collaborative curriculum development and integrated training and assessment within the framework of school-enterprise cooperation dynamics. These procedures facilitate the integration of theoretical knowledge acquisition with practical application, hence enhancing the relevance and effectiveness of modern apprenticeship courses. The development of robust collaborations between educational institutions and industry stakeholders is of paramount importance in fostering the growth of apprentices into proficient professionals who possess a full understanding of theoretical concepts and practical application.

Contributions and Future Research

This study makes contributions in two major areas. The primary purpose of this study is to provide a complete theoretical framework for comprehending the intrinsic transformational practises that are embedded within contemporary apprenticeship programmes. The incorporation of a comprehensive approach to skill development, the construction of personal identity, and the cultivation of critical thinking skills provides a substantial contribution to the continuing scholarly conversation regarding successful educational strategies for fostering versatile professionals.

Moreover, the investigation of the dynamics between educational institutions and businesses offers valuable insights into the cooperation mechanisms that are essential for the effectiveness of apprenticeship programmes. The prioritisation of collaborative curriculum creation and coordinated training is beneficial for educators, institutions, and industry partners seeking to provide relevant apprenticeship programmes.

Future study has the potential to investigate certain industries in order to examine the ways in which these transformational practises and dynamics of collaboration are

manifested in various contexts. In summary, this study highlights the importance of fostering transformational practises within contemporary apprenticeships and building successful collaboration between the school and industry sectors. These principles collectively contribute to the development of a workforce that is adequately equipped to succeed in a continuously expanding professional environment.

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