

# Differentiation of Career Development Orientations among Chinese Information Technology Teachers: A Grounded Theory Study

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## Abstract

With the growing emphasis on information technology education, the role of Information Technology (IT) teachers has become increasingly important. However, compared with countries where the career development of IT teachers is well-established, Chinese IT teachers exhibit a more diverse range of career development orientations—reflecting the complex realities of their marginal institutional status. This study employs a grounded theory methodology to investigate IT teachers at a university in China, aiming to analyze the key factors influencing the differentiation of their career development orientations and to construct a theoretical model explaining this differentiation. The findings reveal that under the combined influence of two core factors—1) whether personality/initiative is proactive or passive, and 2) whether work motivation is intrinsically or extrinsically driven—four distinct career development orientations emerge: teaching-oriented, position-oriented, life-oriented with teaching as a secondary focus, and passive coping & dual-track striving.

## Keywords

Chinese Information Technology teacher, Career Development, Career Differentiation, Grounded Theory

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## 1. Introduction

Across the globe, informatization in education has become a key direction of educational reform, with the deep integration of information technology (IT) re-

garded as a crucial means to enhance educational quality and efficiency. Against this backdrop, IT teachers—who serve as the core force in implementing educational informatization—have received increasing attention regarding their professional roles and developmental status.

In some countries or regions with more mature educational systems, the role of IT teachers has become increasingly professionalized, and the training and development of IT teaching personnel have been well institutionalized. However, within the Chinese education system, the situation of IT teachers remains rather awkward.

On the one hand, due to the overwhelming influence of the Gaokao (China's National College Entrance Examination) on students' future prospects, Chinese students in the K-12 system are largely oriented toward Gaokao preparation. Since IT is a marginal subject within the Gaokao framework, it holds a significantly lower status than core exam subjects, leading to the neglect of IT teachers in school settings.

On the other hand, while national policies in China place strong emphasis on educational informatization and regard IT as a driving force for reform, schools generally lack designated positions to carry out these initiatives. As a result, many IT-related tasks are informally assigned to IT teachers. In practice, this has greatly diluted their teaching functions and assigned them a “jack-of-all-trades” role: they are expected not only to teach IT courses, but also to coach students in IT competitions and extracurricular activities, as well as to handle various administrative and technical duties related to informatization—such as campus network maintenance, digital infrastructure construction, multimedia support, and platform management. Many IT teachers are overwhelmed by these heavy workloads.

Under such circumstances, the career development of Chinese IT teachers does not follow the singular, upward trajectory often seen in other subject areas. Instead, it exhibits a pattern of multi-directional differentiation and burnout-proneness. After 5 to 10 years in the school system, IT teachers tend to pursue diverse paths: while a small portion remain in IT teaching roles, others shift toward technical administration, competition coaching, academic affairs, logistics management, or even part-time careers outside of school.

Why does the career development of IT teachers diverge so significantly? What accounts for such diversity in their developmental trajectories? Are there underlying patterns behind this differentiation?

This study seeks to answer these questions by employing a grounded theory approach to investigate the lived experiences of Chinese IT teachers. It aims to explore how their career development orientations are shaped by institutional and personal factors, to respond to the challenges they face in practice, and to offer constructive suggestions for the professional development of IT teachers in primary and secondary education.

## 2. Literature Review

### 2.1. The Concept and Stages of Teachers' Career Development

Career development refers to a cyclical process in which individuals construct vo-

cational concepts and make career choices based on self-understanding. It encompasses all career-related behaviors, activities, attitudes, and values that change over time throughout one's life span. It is also a continuous process of accumulating experience, engaging in practice, learning, and reflection. Individuals may make different decisions and choices at various life stages, in diverse contexts, and across different workplaces (Wang & Zhou, 2016).

Teachers' career development specifically refers to the ongoing enhancement of teachers' competencies, experiences, and attitudes. It is a lifelong learning journey involving continuous problem-solving and professional growth. This process includes the maturation and advancement of teachers' professional ideals, ethics, emotions, social responsibility, educational understanding, practical competence, and reflective experience. It also entails the continual study, reflection, and inquiry into one's teaching practices, thereby enabling sustainable professional development (Wang, 2008). Beijaard et al. (2004) describe the characteristics of teachers' professional identity through four components: ongoing process, person and context, sub-identities, and agency. Given the unique nature of teaching—marked by the specificity of its target population, the complexity of its tasks, its demonstrative function, the unbounded nature of its temporal and spatial dimensions, its emotional involvement, individualized working styles, and collectively manifested outcomes—many scholars argue that teachers' career development is essentially a form of professional development.

Regarding the stages of career development, Katz (1972) proposed a four-stage model: survival, consolidation, renewal, and maturity, which has gained widespread recognition. Day & Gu (2007) offered a more nuanced six-stage model, emphasizing that professional development is a non-linear and dynamic process. These stages include: learning which builds identity and classroom competence, developing professional identity, defining work-life balance, managing work-life tensions, adjusting to change, and sustaining commitment.

## 2.2. Influencing Factors of Teachers' Career Choice and Career Development

Teachers' career choices are influenced by multiple factors. Ryans (1960) was among the earliest to suggest that individuals are drawn to teaching due to its social service function and intellectual characteristics. Hayes (1990) emphasized that the primary motivations for choosing a teaching career include a love for children, the desire to make a meaningful impact on their lives, and the aspiration to inspire creativity. Gordon (1993), through interviews, found that family and social environments play significant roles in shaping individuals' decisions to enter the teaching profession. Low et al. (2017) identified several influencing factors, including prior teaching experiences, inspirational figures such as school teachers, and decision-driving elements like intrinsic value, social utility value, and the perceived compatibility between personal traits and the teaching profession. Richardson & Watt (2016), through the Factors Influencing Teaching Choice (FIT-Choice) framework, categorized influencing factors into: Socialisation Influences,

Task Demand, Task Return, Self-Perception, Intrinsic Value, and Fallback Career. Within this framework, Intrinsic Value is further divided into Personal Utility Value and Social Utility Value.

As for the influencing factors of teachers' career development, existing research generally recognizes both subjective and objective dimensions. Subjective factors include teachers' personal understanding of the profession, personality traits, and interests. Among these, psychological capital is considered a vital intrinsic resource. Luthans et al. (2004) noted that psychological capital surpasses human capital (knowledge, skills, and experience) and social capital (social networks) in shaping individuals' competitive advantage during their professional growth. In addition, objective factors such as organizational environment—including salary, administrative support, and participation in decision-making—as well as policy design and social support, also play critical roles in influencing teachers' career development (Ingersoll, 2001).

It can be observed that existing studies tend to regard teachers' career development as equivalent to professional development, with a predominant focus on the growth of teachers' knowledge, skills, and psychological capital. However, for Chinese IT teachers, their career development exhibits a distinct pattern of differentiation, which cannot be fully explained by traditional theories of professional development.

Recent studies have revealed the unique dilemmas and choices faced by this group in their career development. Wang & Li (2025), through an autoethnographic study, identified that IT teachers often struggle between “passively staying”, “striving in place”, and “resigning to break through”, while confronting intensified role conflicts and blurred professional expectations. Similarly, Ma & Yang (2021), using narrative inquiry, found that IT teachers' decisions to resign are often rational choices driven by cost-benefit considerations and personal value pursuits, with the collapse of their teaching ideals being a key contributing factor.

Therefore, instead of a macro-level analysis, this study focuses on the specific context of Chinese IT teachers. By exploring their lived experiences, it seeks to understand how differentiated career development trajectories take shape.

Accordingly, this study adopts a grounded theory methodology to investigate nine IT teachers who entered the school system with relatively similar initial conditions. It seeks to explore why they developed markedly different career orientations, and to explain the underlying causes and influencing factors of the differentiated career development among IT teachers in China's basic education system.

### 3. Research Design

#### 3.1. Research Methods

This study adopts the grounded theory methodology, a widely recognized qualitative research approach. Grounded theory was originally developed by Glaser and Strauss as a bottom-up theory-building method. It seeks to generate theoret-

ical constructs from empirical data by identifying core concepts that reflect the phenomenon under study, and by establishing relationships among those concepts to construct a theoretical framework. The process of theory construction in grounded theory primarily relies on a three-stage coding procedure: open coding, axial coding, and selective coding (Chen, 1999). Coding, in this context, refers to the constant comparative analysis of events with events, events with concepts, and concepts with concepts. Through this iterative process, the data are conceptualized to form categories and their properties (Strauss & Corbin, 1990). In this study, the software Nvivo 11 was used to assist with data coding and analysis.

### 3.2. Research Participants

This study selected all IT teachers from a senior high school located in eastern China as the primary research participants. In China's eastern provinces, IT education is generally given considerable emphasis. Schools in this region tend to have well-developed informatization infrastructure, sufficient curriculum offerings in IT, and a wide range of extracurricular IT-related interest groups and competitions. The selected high school represents the average level of informatization and IT education development among schools in eastern China, making it a suitable case for investigating the career development of IT teachers in general senior secondary schools.

Using a combination of purposeful sampling and theoretical sampling, the study ultimately selected nine IT teachers from this school (see Table 1). The participants covered diverse roles such as teaching, academic affairs, website management, and equipment maintenance, reflecting the typical work scope of IT teachers. Theoretical saturation was reached when no new categories emerged after coding the eighth and ninth interviews.

**Table 1.** Basic information of participants.

ID	Year of Entry	Gender	Professional Title	Education Level	Major background	Career Development Involvement (Tasks beyond daily teaching responsibilities)
T1	1996	Female	Senior Level	Master's	Computer Applications (non-teacher training)	Subject leader, mainly responsible for teaching tasks and exhibition planning.
T2	1996	Male	Senior Level	Bachelor's	Educational Technology	Videographer, involved in school website construction, and assists with teaching tasks.
T3	2001	Female	Intermediate Level	Bachelor's	Computer Education (teacher training)	Equipment management, maintenance of multimedia classrooms, assists in recording and photographing.
T4	2001	Male	Intermediate Level	Bachelor's	Computer Education (teacher training)	Responsible for school network construction, coaching students in competitions.

**Continued**

T5	2001	Male	Intermediate Level	Bachelor's	Computer Education (teacher training)	Organizer of IT interest groups and competitions, leading students in technical innovation.
T6	2002	Male	Intermediate Level	Bachelor's	Modern Educational Technology	In charge of school website maintenance and teaching-related innovations.
T7	2002	Female	Intermediate Level	Bachelor's	Educational Technology	Provides multimedia technical support, assists in campus digital environment construction and maintenance.
T8	2015	Female	Junior Level	Bachelor's	Computer Education (teacher training)	Manages student information materials, involved in exam affairs and exhibition planning.
T9	2015	Female	Junior Level	Bachelor's	Modern Educational Technology	Responsible for media production, involved in exam affairs and exhibition planning.

## 4. Data Collection and Analysis

### 4.1. Interviews

This study adopted a semi-structured interview approach. The interviews were guided by the central question: “What factors influence the orientation of career development?” The interview protocol focused on the following key areas: motivation for entering the profession, career transitions, professional identity and current status, the relationship between career and personal life, experiences of burnout and job satisfaction, and future plans. With the informed consent of each participant, interviews were audio-recorded using mobile devices. Each session lasted approximately 60 to 90 minutes. Upon completion, all recordings were transcribed verbatim, and the transcripts were saved using anonymized participant codes. When necessary, follow-up interviews were conducted to further clarify or elaborate on emerging themes during data analysis.

The interview protocol and the selection of participants were not fixed in advance but were instead refined iteratively throughout the research process in accordance with the grounded theory methodology.

### 4.2. Coding and Analysis

#### 4.2.1. Open Coding

During the process of open coding, the researcher bracketed prior assumptions and, guided by theoretical sensitivity, approached the data with an open and exploratory attitude. This involved breaking down, examining, comparing, conceptualizing, and categorizing the data. After conducting open coding on all collected materials, the study generated a total of 466 nodes. The results of open coding were ultimately presented in terms of categories, properties, and dimensions (see **Table 2**).

**Table 2.** Results of open coding.

Category	Attribute	Dimension
Reasons for Employment	Occupational Characteristics	Relatively stable job at school; summer and winter vacations; simple work environment; low pressure
	Professional Reasons	Major matches the job; unclear understanding of the major initially
	Family Considerations	Local work; convenient to take care of family members
	Policy Reasons	Must work as a teacher to receive teacher scholarship; two-way selection policy
	Timing	Job allocation; industry rise; school shortage of staff
Current Job Situation	Interest	Like computers; passion for education sector
	Difficulty in Title Evaluation	intrinsic competition disadvantage; school's implementation differs from extrinsic plans; strict regulations hard to meet
	Low Salary and Benefits	Complaints about lowest pay despite same workload; salary related to title, performance, and teaching hours; low pressure, paid based on workload
	Low Discipline Status	IT discipline undervalued, assigned many miscellaneous tasks; seen as a service discipline; belief that compulsory measures and material support can aid teacher development
	Low Course Requirements	Good student quality; moderate teaching demands, lower expectations
Work Motivation	Generalized Job Content	Daily teaching; broadcast setup, filming; school network construction and maintenance; leading student competitions; educational technology equipment work; many miscellaneous tasks
	Extrinsic Motivation	Concern about face; meeting excellent people; having holidays
	Self-Actualization	Receiving recognition; finding a sense of belonging
	Economic Reasons	Need to earn a living
	Educational Sentiment	Satisfaction from working for students; students learning knowledge
Personal Educational Background	Personality Reasons	Perseverance; sense of responsibility; curiosity
	Employment Year	1996; 2001; 2002; 2015
	Major Background	Computer Applications (non-teacher training); Computer Education (teacher training); Modern Educational Technology (teacher training)
Personal Family Background	Professional Engagement	Leading student competitions; not leading student competitions
	Family Burden	Has children to care for; family support, little burden
Personal Cognition	Work-Family Conflict	Significant conflict, actively seeking balance; basically no conflict
	Personal Expectations	Desire to study abroad; caught a good timing; pessimistic about enterprise development
	Self-Professional Cognition	Need to continuously learn new knowledge; at the forefront of technology; strong professionalism and ability; not respected by students; low status and low sense of achievement; small influence on students
	Expectations of Educational System	Hope for reform and due treatment; follow the party, endure passively

**Continued**

Personal Choices	Own Education Pathway	Continuing education (master's degree); proactive learning; passive learning due to extrinsic demands
	Career Development Orientation	Teaching prioritized; position prioritized; life prioritized while balancing teaching; dual-track development
	Future Career Planning	Consolidate teaching and lead student competitions; more administrative work; go with the flow, family first; job change
Self-Assessment of Current Status	Causes of Job Burnout	Feeling hopeless about future; experiencing unfairness; too many miscellaneous tasks; inability to realize self-worth
	Reasons for No Burnout	No pressure; sufficient time for learning
	Job Satisfaction	Quite satisfied; content with status quo; large gap; dissatisfied

**4.2.2. Axial Coding**

In axial coding, the researcher reorganizes categories and subcategories using the coding paradigm model, in the process identifying core categories and establishing their interrelationships. The coding paradigm model includes the following elements: (A) causal conditions; (B) phenomenon; (C) context; (D) intervening conditions; (E) action/interaction strategies; (F) consequences (Strauss & Corbin, 1990).

In this study, since each of the nine IT teachers had a different orientation toward career development, they were treated as independent phenomena. Therefore, this study focuses solely on the five elements excluding the phenomenon (see **Table 3**). During this stage, “Employment Year” was updated to “teaching experience”, and the attribute “personality” was refined as “initiative”.

**Table 3.** Results of axial coding.

Step	Content
(A) causal condition	Reasons for Employment
	Self-Professional Cognition
	Current Job Situation
(C) context	Work Motivation (Intrinsic-Extrinsic)
(D) intervening conditions	Employment Year/teaching experience
	Major Background
	Own Expectations
	Personality/initiative (Proactive-Passive)
(E) action/interaction strategy	Family Burden
	Continuing education (Pursued a Master's Degree-No Further Study)
(F) consequences	Career Development Orientation
	Professional Attitude (Burnout-Satisfaction)

### 4.2.3. Selective Coding

In selective coding, the researcher explores the relationships among the major categories identified above and discovers that the core categories explaining the differentiation of career development paths among IT teachers are: 1) whether personality/initiative is proactive or passive, and 2) whether work motivation is driven by intrinsic or extrinsic factors (see **Table 4**). Based on this, the study identifies at least four distinct orientations in the career development of IT teachers in China. The teachers' personality traits and sources of motivation are found to be the core factors leading to these differentiated career development orientations. In addition, the study also analyzes the main factors contributing to feelings of burnout among IT teachers.

## 5. Research Findings

### 5.1. Analysis of the Causes behind the Differentiation of Career Development Orientations among IT Teachers in China

Based on grounded analysis of the interview data, the study finds that, under the same working environment and policy context, the primary factors influencing the career development orientations of IT teachers are intrinsic rather than extrinsic. These intrinsic factors mainly manifest in the interaction between the teacher's work motivation and personality, which together constitute the two core elements underlying the differentiation of career trajectories.

Work motivation refers to the primary driving force behind IT teachers' engagement in their profession. It can be divided into intrinsic motivation and extrinsic motivation. Intrinsic motivation originates from an inner commitment to education—teachers are driven by their educational ideals and value the transformative impact of teaching on students' growth and development. Extrinsic motivated teachers, on the other hand, are more influenced by factors such as social status, salary, professional networks, and access to educational resources—elements tied to personal or material benefits. Teachers with intrinsic motivation place greater emphasis on the inherent value of teaching itself. Even under extrinsic pressures, they tend to maintain aspirations for professional development and are more likely to adhere to their identity as IT educators. In contrast, teachers with extrinsic motivation, when facing the challenges and limitations of IT teaching as a career, are more inclined to actively seek better opportunities by breaking through the constraints of their current role.

The second core element is the teacher's personality, which essentially reflects their level of initiative. This can be categorized into two types: proactive and passive-accepting. Proactive teachers are those who adopt a positive attitude when faced with difficulties and setbacks. They strive to overcome extrinsic constraints through personal effort and seek optimal paths for their professional development, thereby achieving their career goals and enhancing their sense of professional efficacy. In contrast, passive-accepting teachers tend to respond to challenges with avoidance or resignation. Confronted with restrictive or suppressive

work environments, they make little to no attempt at breaking through the status quo and often exhibit a conservative or complacent attitude. Proactive teachers are willing to actively engage in their profession and derive fulfillment from a variety of domains. Passive-accepting teachers, on the other hand, tend to prioritize stability, and focus more on maintaining a balance between instructional responsibilities and administrative duties.

In addition to these two core elements, the study also finds that teachers' academic backgrounds exert a certain influence on their career orientations. IT teachers in China generally come from either a computer science background or an educational technology background. Teachers with a background in computer science tend to focus more on teaching IT-related courses and preparing students for competitions. They are less inclined to pursue administrative roles and are more likely to follow a "teaching-oriented" career path. In contrast, those with degrees in modern educational technology often possess strong adaptability and are skilled in software operation and the use of complex technical equipment. They also maintain closer ties with school administrators and colleagues from other disciplines. As a result, they often transition into roles involving academic affairs and school management, actively contributing to institutional development and becoming indispensable members of the school's administrative infrastructure.

Compared to students majoring in computer science, those from educational technology programs are more likely to envision becoming IT teachers as their future career path. However, this study reveals a paradox between the training of educational technology students and the actual career development of IT teachers. Unlike more technically oriented majors such as computer science, educational technology programs typically offer more courses focused on instructional support and practical applications. As a result, graduates from these programs are more likely to be assigned to non-teaching positions.

Moreover, the widespread institutional demand for teachers to serve in non-instructional roles in turn reinforces a curriculum design that leans even further toward application and service-oriented content. This cyclical relationship raises a critical question: Is the development trajectory of educational technology shifting from teaching to teaching support? How, then, should the academic training of educational technology as a discipline be properly positioned? These questions merit deep reflection from all those involved in the cultivation of educational technology professionals and the design of their curricula.

## 5.2. Theoretical Framework of Career Development Orientations among IT Teachers in China

Under the influence of the two core elements—initiative and work motivation—the career development orientations of IT teachers in China can be categorized into four types: teaching-oriented, position-oriented, life-oriented with teaching as a secondary focus, and passive coping & dual-track striving (see **Table 4**).

The first type is the teaching-oriented teacher. A teacher of IT who demonstrates a proactive personality and possesses a strong sense of educational idealism

**Table 4.** Results of selective coding.

Work Motivation Personality/Initiative	Intrinsic Motivation (Educational Idealism)	Extrinsic Motivation (Status, Salary)
Proactive	teaching-oriented	position-oriented
Passive	life-oriented with teaching as a secondary focus	passive coping & dual-track striving

tends to prioritize teaching when facing extrinsic pressures and multiple career choices. Such teachers often grow into expert instructors in their schools, primarily responsible for student instruction, IT course teaching, and guiding students in competitions. Over time, these teachers develop a kind of “immunity” to administrative or miscellaneous tasks, managing to stay focused on teaching alone. In some cases, they may even refuse such tasks when assigned by school leaders, dedicating their full energy to improving instructional quality. Through the development of their professional expertise, these teachers reach a tacit understanding with school leadership, effectively exempting themselves from non-teaching responsibilities.

The second type is the position-oriented teacher. Compared to teachers of other subjects, IT teachers often hold unique roles, frequently being assigned a range of non-teaching duties. While such duties may dilute their instructional role, they also open up new paths for career development. For a teacher who is proactive in personality but whose motivation is driven more by status, promotion, or public recognition, they are likely to prioritize administrative or leadership positions over teaching. These teachers tend to seek advancement in parallel with their teaching responsibilities—participating in academic affairs, school management, or leadership roles. Those with strong interpersonal and communication skills often move into leadership positions, such as becoming the school’s Director of Information Technology.

The third type is the life-oriented with teaching as a secondary focus teacher. A teacher with a passive personality but driven by intrinsic motivation such as educational ideals and a desire to learn, may still value teaching. However, influenced by their lack of initiative, they tend to prioritize personal life when under pressure. This type of teacher maintains a balance between teaching and personal well-being. Unlike their more proactive counterparts, they are not uninterested in teaching quality, but place greater emphasis on quality of life and family responsibilities.

The fourth type is the passive coping & dual-track striving teacher. When a teacher is passive in personality and also lacks intrinsic motivation (i.e., has little enthusiasm for teaching itself), but is instead driven by extrinsic rewards such as income and status, they tend to exhibit a pattern of passive coping and dual-track striving. In other words, they complete tasks only when assigned, wait for opportunities, take a reactive stance in their work, and show little initiative in skill development. This type is most commonly seen among novice teachers who have

only recently entered the profession. During the early years of employment, schools often impose strict evaluation standards on new IT teachers, requiring both rapid growth in subject instruction and competence in handling various administrative tasks. When senior teachers are overloaded with teaching or leadership duties, they often delegate responsibilities to their junior colleagues. As a result, early-career IT teachers are frequently placed in a passive and overburdened position, having to juggle both teaching and a variety of non-instructional duties.

The four career orientation types identified in this study are structured around the interaction of two core variables: work motivation (Intrinsic vs. Extrinsic) and personality traits (Proactive vs. Passive). Compared to previous models that focus solely on career stages (e.g., Huberman, 1993) or psychological motivation (e.g., Deci & Ryan, 1985), this framework provides a cross-cutting typology that captures how teachers with similar years of service can diverge in their developmental paths due to differing combinations of motivation and disposition.

Specifically, while Huberman's model emphasizes changes in teachers' attitudes across different career stages, our model highlights differentiation within the same career stage, shaped by internal drives and personality. Similarly, Deci and Ryan's Self-Determination Theory distinguishes between intrinsic and extrinsic motivation, yet our findings suggest that when motivation interacts with one's degree of proactiveness, it significantly alters career decisions and growth patterns. Thus, this study contributes a more dynamic and context-sensitive framework for understanding teacher development trajectories, offering a novel analytical lens for future empirical research and educational policy design.

### 5.3. Analysis of the Causes of Professional Burnout among IT Teachers in China

In the process of the differentiation of career development orientations among IT teachers, one particularly significant factor is professional burnout. Burnout is closely tied to career differentiation. Therefore, in order to deepen the understanding of IT teachers' career trajectories, this study also examines the causes and characteristics of professional burnout.

The findings reveal that two key factors influencing IT teachers' experience of burnout are their sense of professional identity and their level of personal expectation. Professional identity can be classified as positive or negative. A positive identity refers to a teacher's affirmative attitude toward the profession, recognizing both the social value and personal meaning of their work. In contrast, a negative identity reflects a dismissive or disengaged attitude, often characterized by a sense of meaninglessness or lack of recognition. Teachers' expectations for themselves can be categorized as clear or ambiguous. Those with clear expectations typically have well-defined career goals and are proactive in improving their competencies. Those with ambiguous expectations often lack planning and adopt a passive mindset—"taking one day at a time", which undermines their enthusiasm for teaching.

Under the combined influence of professional identity and personal expectations, four types of burnout were identified among teachers: no burnout, low burnout, moderate burnout, and high burnout (see **Table 5**).

**Table 5.** Results of selective coding (professional burnout).

Personal Expectation Professional Identity	Clear	Unclear
Positive	No Burnout Type	Low Burnout Type
Negative	High Burnout Type	Moderate Burnout Type

Teachers who experience no professional burnout typically have a clear and positive professional identity as information technology educators, coupled with well-defined personal development goals. In their daily work, they continuously deepen their identification with the educational field and align themselves with the school's educational philosophy. By steadily achieving their set goals and experiencing a sense of accomplishment, they rarely encounter burnout; if any burnout occurs, it is quickly replaced by feelings of professional success.

Teachers with low burnout generally hold a positive professional identity, recognizing the value of being an IT teacher and endorsing the school's educational philosophy. However, their self-positioning and career goals tend to be vague. Due to a lack of clear direction in their professional development, they may experience some degree of burnout, which is classified as a low burnout type.

Teachers experiencing moderate burnout often possess a negative professional identity, doubting the actual benefits of their IT teaching or related services. They perceive their work merely as a means to meet basic survival needs and aim only to complete tasks adequately. Combined with vague personal goals and career plans, they tend to drift without a clear development direction or sense of achievement, making them prone to moderate burnout during their career.

The study also reveals the causes of high professional burnout. Teachers in this category hold a negative professional identity and subjectively view their current work and the school's educational philosophy negatively, feeling that their efforts lack value. At the same time, they have clear personal goals and expectations. When their values and expectations conflict with the current status of IT teachers within the school, and their hard work fails to fulfill their goals, they experience intense professional burnout.

## 6. Discussion

Based on the differences in career development orientations and the current state of professional burnout among IT teachers, this study proposes corresponding recommendations from three dimensions: teacher personal growth, school management support, and post-employment academic advancement, aiming to promote the enhancement of teachers' professional competencies and optimize their career development.

First, schools should provide teachers with more opportunities to experience teaching achievements and improve their professional competence. On one hand, many IT teachers are often regarded as technical support staff within schools, with their teaching achievements receiving insufficient recognition, making it difficult for them to feel a sense of accomplishment in teaching. Over time, this can easily lead to burnout and professional alienation. On the other hand, as IT is a discipline highly dependent on rapid technological updates, its content iterates quickly and demands practical skills. Continuous professional development is therefore crucial for IT teachers. Consequently, school administrations should offer more opportunities for extrinsic learning and professional exchanges—such as training programs, study visits, and seminars—to help teachers broaden their professional horizons and update their teaching philosophies, thereby continuously stimulating creativity and a sense of achievement in their teaching. Meanwhile, schools should also establish systematic research mechanisms to provide platforms for teachers to showcase their achievements and exchange experiences, fostering continuous professional growth through practice.

Second, schools should provide IT teachers with greater status and resource support. In the context of rapid digital technology development, the importance of IT for school development and educational processes is indisputable. However, school leadership often recognizes and values IT while failing to give sufficient respect and recognition to those engaged in this work, causing a disconnect that leads to teachers' feelings of meaninglessness. From the management perspective, improvements are needed both in institutional policies and resource allocation. Institutionally, schools should set reasonable workloads and performance standards for IT teachers to avoid them being burdened with administrative tasks for extended periods without appropriate compensation, ensuring fair treatment and development opportunities. Regarding resources, schools can expand professional growth by providing course platforms, organizing academic exchanges, and encouraging participation in student competitions, thereby invigorating teaching enthusiasm.

Third, schools should offer more opportunities for post-employment continuing education for IT teachers. The study finds that the career development path of university IT teachers is significantly influenced by their academic background: those with computer science backgrounds tend toward a “teaching-first” approach, while those with educational technology backgrounds are more likely to pursue “position-first” development routes. This difference not only reflects variations in training emphases but also reveals role ambiguity and skill mismatch problems faced by teachers in practice. Continuing education, especially pursuing master's degrees, becomes a critical path for teachers to break through previous skill boundaries and achieve re-specialization. Therefore, from an institutional perspective, schools should establish incentive mechanisms for teacher further education, incorporating master's and doctoral studies into teacher development plans and positively evaluating such pursuits in professional title promotions and

performance assessments. Additionally, flexible work arrangements—such as adjustable teaching loads and paid study leave, should be provided to alleviate conflicts between work and study.

## 7. Conclusion

This study applied grounded theory to examine the career development orientations and professional burnout among nine secondary school information technology (IT) teachers in China. The findings indicate that two key internal factors—work motivation (Intrinsic vs. Extrinsic) and personality (Proactive vs. Passive), jointly shape teachers' career orientations, resulting in four distinct types: Teaching-Oriented, Position-Oriented, Life-Oriented with Teaching as a Secondary Focus, and Passive Coping & Dual-Track Striving. In parallel, teachers' burnout levels were found to reflect the interaction between professional identity (positive vs. negative) and clarity of Personal expectations (clear vs. unclear), producing four corresponding burnout profiles.

Nevertheless, several limitations of the study should be acknowledged. First, all participants were selected from a single secondary school. While they represent a diversity of roles and experiences within that setting, the findings may not be generalizable across different regions, school levels, or institutional contexts. Future research should test the applicability of the model in more diverse settings. Second, although theoretical saturation was reached, the small sample size limits in-depth analysis of potential differences across gender, age, or years of service. Expanding the sample in subsequent studies could help to examine these demographic dimensions and further refine the theoretical framework.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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