



Vocational Career Table (VCT): An Ikigai-based career adaptability guidance model for vocational high school

Rudi Haryadi¹, Muktiarni², Muh. Abdul Latif³

^{1,2,3} Universitas Pendidikan Indonesia, Bandung, Indonesia
rudi@upi.edu¹, muktiarni@upi.edu², muhabdul@upi.edu³

ABSTRACT

This study develops a career adaptability guidance model, the Vocational Career Table (VCT), for Vocational High School (SMK) students to support meaningful career success in the future. This study is motivated by the high unemployment rate of vocational high school graduates in Indonesia in August 2025, which reached 8.63%, far exceeding the national average of 4.85%. The method used is Design-Based Research (DBR) with a mixed-methods approach through six iterative phases. The needs analysis combines a bibliometric study of 727 Scopus articles, a PRISMA systematic review of 80 studies, a survey of 406 teachers, and focus group discussions with 25 stakeholders. The design phase integrates career construction theory with the concept of ikigai, resulting in 20 guidance activities in seven competency clusters divided into five stages: Touch, Actualization, Build, Level Up, and Encourage. Public testing of 1,798 students and 27 counselors across 57 schools demonstrated that the career adaptability component was met, with priority given to improving career confidence and recognizing certified competencies. The final model, consisting of 96 hours of instruction over six semesters, has been validated by experts and proven suitable for implementation in vocational education.

ARTICLE INFO

Article History:

Received: 12 May 2026
Revised: 30 Aug 2026
Accepted: 3 Sep 2026
Publish online: 24 Sep 2026

Keywords:

career adaptability; career guidance; ikigai; school to work transition; vocational high school

Open access

Curricula: Journal of Curriculum Development is a peer-reviewed open-access journal.

ABSTRAK

Penelitian ini mengembangkan model bimbingan adaptabilitas karier bernama Vocational Career Table (VCT) untuk murid Sekolah Menengah Kejuruan (SMK) guna mendukung keberhasilan karier yang bermakna di masa depan. Studi ini dilatarbelakangi oleh tingginya tingkat pengangguran terbuka lulusan SMK di Indonesia pada Agustus 2025 yang mencapai 8,63%, jauh melampaui rerata nasional sebesar 4,85%. Metode yang digunakan adalah Design-Based Research (DBR) dengan pendekatan metode campuran melalui enam fase iteratif. Analisis kebutuhan menggabungkan studi bibliometrik terhadap 727 artikel Scopus, tinjauan sistematis PRISMA terhadap 80 penelitian, survei kepada 406 guru, serta diskusi kelompok terpusat bersama 25 pemangku kepentingan. Tahap perancangan mengintegrasikan teori konstruksi karier dengan konsep ikigai, menghasilkan 20 aktivitas bimbingan dalam tujuh kluster kompetensi yang terbagi ke dalam lima tahapan: Touch, Actualization, Build, Level Up, dan Encourage. Pengujian publik pada 1.798 murid dan 27 konselor di 57 sekolah menunjukkan terpenuhinya komponen adaptabilitas karier, dengan prioritas perbaikan pada aspek keyakinan karier serta pengakuan kompetensi tersertifikasi. Model akhir berdurasi 96 jam pelajaran selama enam semester ini telah divalidasi oleh para ahli dan terbukti layak diterapkan dalam pendidikan kejuruan.

Kata Kunci: adaptabilitas karier; bimbingan karier; Ikigai; Sekolah Menengah Kejuruan; transisi sekolah ke dunia kerja

How to cite (APA 7)

Haryadi, R., Muktiarni, M., & Latif, M. A. (2026). Vocational Career Table (VCT): An Ikigai-based career adaptability guidance model for vocational high school. *Curricula: Journal of Curriculum Development*, 5(3), 1223-1238.

Peer review

This article has been peer-reviewed through the journal's standard double-blind peer review, where both the reviewers and authors are anonymised during review.



Copyright

2026, Rudi Haryadi, M. Muktiarni, Muh. Abdul Latif. This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) <https://creativecommons.org/licenses/by-sa/4.0/>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author, and source are credited.

*Corresponding author: rudi@upi.edu

INTRODUCTION

Vocational secondary education exists to equip students with occupation-specific competencies so that they can enter the labor market as independent, work-ready graduates. In Indonesia, this mandate is carried by vocational high schools (Sobari et al., 2023), a system of more than 14,000 schools and 337,000 teachers spread across 38 provinces. The promise of a smooth school-to-work transition, however, remains unevenly realized. Official statistics for August 2025 place the open unemployment rate of SMK graduates at 8.63%, the highest of any educational attainment level and well above the national rate of 4.85% (See:

<https://www.bps.go.id/id/publication/2025/12/19/42a75ee61332755586fdcfdd/keadaan-angkatan-kerja-di-indonesia-agustus-2025.html>).

Graduates who do find employment frequently work outside their field of training, stagnate in their career development, or abandon career tracks they had begun to build. Industry partners acknowledge the adequacy of graduates' technical foundations but consistently identify weaknesses in work character, work ethic, and future career planning (Wagiran et al., 2023). These employment difficulties unfold against a labor market reshaped by automation, digitalization, and Industry 4.0, requiring vocational systems to build transferable skills alongside occupation-specific ones (Kamaruzaman et al., 2025; See: https://www.oecd.org/en/publications/building-future-ready-vocational-education-and-training-systems_28551a79-en.html; <https://www.voced.edu.au/content/ngv:97316>).

Guidance that helps students navigate this shifting landscape, rather than curriculum content alone, is therefore an increasingly load-bearing part of the vocational education mandate. These phenomena point to a problem that lies less in technical skill formation than in career adaptability, the psychosocial readiness and resources an individual needs to cope with occupational transitions, developmental tasks, and work traumas (Savickas & Porfeli, 2012; Super & Knasel, 1981). Career Construction Theory operationalizes this readiness through the Career Adapt-Abilities Scale (CAAS), validated across thirteen countries and in Indonesian settings (Savickas & Porfeli, 2012; Sulistiani et al., 2018), yet career guidance practice in Indonesian vocational schools remains dominated by a developmental-psychology orientation with limited connection to vocational realities and little explicit anchoring in life purpose (See: <https://muspla.sch.id/implementasi-bimbingan-karier-di-smk-ideal-dan-reality/>).

The Japanese concept of ikigai, the reason for being that emerges at the intersection of what one loves, what one is good at, what one can be paid for, and what the world needs, offers a culturally translatable framework for anchoring career behavior in purpose (Sartore et al., 2023). The theoretical grounding for these constructs, and the guidance interventions they have informed, is developed further in the Literature Review. To date, no guidance model for Technical and Vocational Education and Training (TVET) students has systematically integrated ikigai with the career adaptability construct, a gap that motivates the present study (Buyukcolpan & Ozdemir, 2025).

The novelty of this study lies in the integration itself: rather than treating career adaptability and ikigai as parallel constructs, it operationalizes their intersection as a staged, deliverable guidance curriculum for SMK students, translating theory into a form schools can implement rather than a conceptual proposal alone. Against this background, this study aimed to develop, test, and refine a guidance model for vocational high school students that crosses career adaptability resources with ikigai elements, guided by three research questions: 1) What are the current research trends on the issue of career adaptability?; 2) What career adaptability problems do vocational students and graduates experience?; 3) What guidance framework results from the matrix of career adaptability aspects with ikigai elements? The answer to the third question, a guidance model we named the Vocational Career Table (VCT), is the contribution this article reports; its five delivery stages and full structure are developed in detail in the Results section.

LITERATURE REVIEW

Career Adaptability and Career Construction Theory

The VCT model retains the four established career adaptability dimensions: concern, control, curiosity, and confidence, and adds career path as a model-specific vocational guidance dimension to operationalize career-ladder planning (Savickas & Porfeli, 2012) and has been validated in Indonesian settings (Sulistiani et al., 2018). Career construction interventions for secondary students have been field-tested with encouraging results (Gülşen et al., 2021). Instrumentation has kept pace: the CAAS itself has recently been adapted and validated in Bahasa Indonesia specifically for SMK students, giving Indonesian vocational-guidance research a population-matched measure of career readiness (Widyawati et al., 2025).

Career Guidance Practice in Indonesian Vocational Schools

Career guidance practice in Indonesian vocational schools nonetheless exhibits two persistent limitations (Basyarah et al., 2021; Ristianti, 2022; Santika et al., 2023). Guidance services remain dominated by a developmental-psychology orientation with limited connection to the contextual realities of vocational careers, and counselors often have no dedicated instructional hours in which to deliver career guidance (See: <https://muspla.sch.id/implementasi-bimbingan-karier-di-smk-ideal-dan-realita/>). In addition, existing intervention models address the cognitive and behavioral resources of adaptability without an explicit orientation toward the meaningfulness of life that gives career goals their motivational force.

A recent systematic review of Indonesian career guidance and counseling research corroborates this picture, identifying under-resourced counseling structures and a persistent skills-versus-readiness gap as recurring problems across SMK settings (Hamidah et al., 2022). Where guidance programs have been implemented and evaluated experimentally, however, career-adaptability-based approaches do raise students' job readiness (Pinem & Asri, 2026), and school-level studies confirm that structured vocational career guidance measurably improves SMK students' work readiness (Fatmawati et al., 2026), evidence that

the intervention gap identified here is addressable rather than merely aspirational. Recent Indonesian labor market research adds empirical texture to the mismatch problem this study addresses.

Using national labor force survey data collected during the COVID-19 pandemic, SMK graduates showed a wage return roughly 17 percentage points higher than general track (SMA) graduates, evidence that the vocational wage premium persisted even under acute labor market disruption (Astuti & Setyonaluri, 2022), and separate microdata analysis finds SMK graduates are less likely than other graduates to experience vertical education job mismatch specifically (Putranto et al., 2024). The guidance model developed here also enters an active curriculum-reform environment, most visibly the government's Kampus Merdeka Vokasi and SMK Pusat Keunggulan programs (see: <https://www.scribd.com/document/577617855/1-Kepmen-165-2021-Program-SMK-Pusat-Keunggulan>), which continue to work out how to reconcile the Kurikulum Merdeka with Industry 4.0 skill demands (Kasili et al., 2025).

Ikigai as a Purpose Construct in Career Development

The Japanese concept of ikigai, the reason for being that emerges at the intersection of what one loves (passion), what one is good at (profession), what one can be paid for (vocation), and what the world needs (mission), offers a culturally translatable framework for anchoring career behavior in purpose (Sartore et al., 2023). Strong instrumentation exists for career adaptability through the CAAS. However, guidance frameworks that couple adaptability resources with life-meaning constructs remain limited, and whether such guidance belongs within formal schooling or in the post-graduation transition window has not been empirically settled (Millán et al., 2023; Triyadi, 2023).

METHODS

The study used a mixed-methods Design-based Research (DBR) approach, combining analysis of practical problems, iterative development of solutions in collaboration with practitioners, cycles of testing and refinement, and reflection to produce design principles (Wang & Hannafin, 2005). The development process was organized into six iterative phases: 1) Focus, problem identification through a literature study using Systematic Literature Network Analysis (SLNA), a technique combining systematic review protocols with bibliometric network mapping (Colicchia & Strozzi, 2012), conducted with VOSviewer (van Eck & Waltman, 2010) following current guidelines for designing and reporting bibliometric analyses (Donthu et al., 2021); 2) Understand, deepening of the problem context through a teacher survey and focus group discussions (FGD) on learning profiles, competency adequacy, and career constraints of vocational students and graduates, analyzed thematically (Braun & Clarke, 2021); 3) Define, design of the guidance model through an internal development workshop that matrixed career adaptability aspects with ikigai elements; 4) Conceive, public testing of the design through socialization to career counselors, counselor-led dissemination to students, and a student reflection survey, with responses triggering iterative returns to earlier phases (redefine, reconceive, rebuild); 5) Build, finalization of the model and completion of the guidance toolkit comprising a guidebook,

materials, and evaluation instruments; and 6) Test, reflection and validation through open interviews with vocational education policy stakeholders, career development practitioner communities, and vocational education experts (Easterday et al., 2014). The teacher survey and the 1798 respondent student reflection survey both used Likert-type items.

RESULTS AND DISCUSSION

Research Trends on Career Adaptability

The bibliometric analysis of 727 Scopus-indexed documents published between 1981 and 2022 shows that career adaptability research has grown from a marginal topic into a sustained international research stream. Publication activity was nearly flat for the first 25 years. The third decade of publication (2003-2013) contributed 83 articles (11.40%), while the fourth decade accounted for 632 documents (86.81%), with growth concentrated in the final seven years of the corpus. Journal articles dominate the document types (632 documents; 87.21%), and the fifteen most productive publishers, led by Academic Press (22.94%), SAGE (20.87%), and Routledge (8.49%), account for 436 documents, a sign that the topic circulates chiefly through peer-reviewed venues. Figure 1a displays this publication trajectory across the four decades.

Author-network analysis with thresholds of five documents and five citations identified 63 of 1,426 authors forming four collaboration clusters. Nota L. emerged as the most productive author (23 articles), Savickas M. L. as the most prominent (1,819 citations across 7 articles), and Guan Y. as the most networked author, collaborating with eight co-authors on themes running from career construction implications for counseling practice to job search self-efficacy in the school-to-work transition (Guan et al., 2022; Haryadi et al., 2024). Geographically, research originated in the United States, where the first publication appeared in 1981, spread through Europe, then Australia and Africa, and has more recently concentrated in Asian countries including South Korea, Pakistan, Hong Kong, India, Malaysia, and Taiwan.

Keyword co-occurrence analysis, in which 94 of 1,456 keywords met the five-occurrence threshold, produced five clusters anchored by career adaptability (506 occurrences; total link strength 741), career development, life satisfaction, and related terms (**Figure 1b**). The cluster composition is consistent with a thematic shift over time: the smallest cluster (13 items) is anchored in assessment and scale-validation terms tied to the CAAS (Savickas & Porfeli, 2012; Swastika & Sudjani, 2023), the instrument that anchored the field through the slower-growth decades before 2014 (**Figure 1a**), while the largest cluster (28 items) concentrates on decent work, economic constraints, marginalization, and work volition, the motivational willingness to work that researchers currently treat as the frontier of the field, gaining prominence as the literature expanded sharply after 2014 (**Figure 1a**).

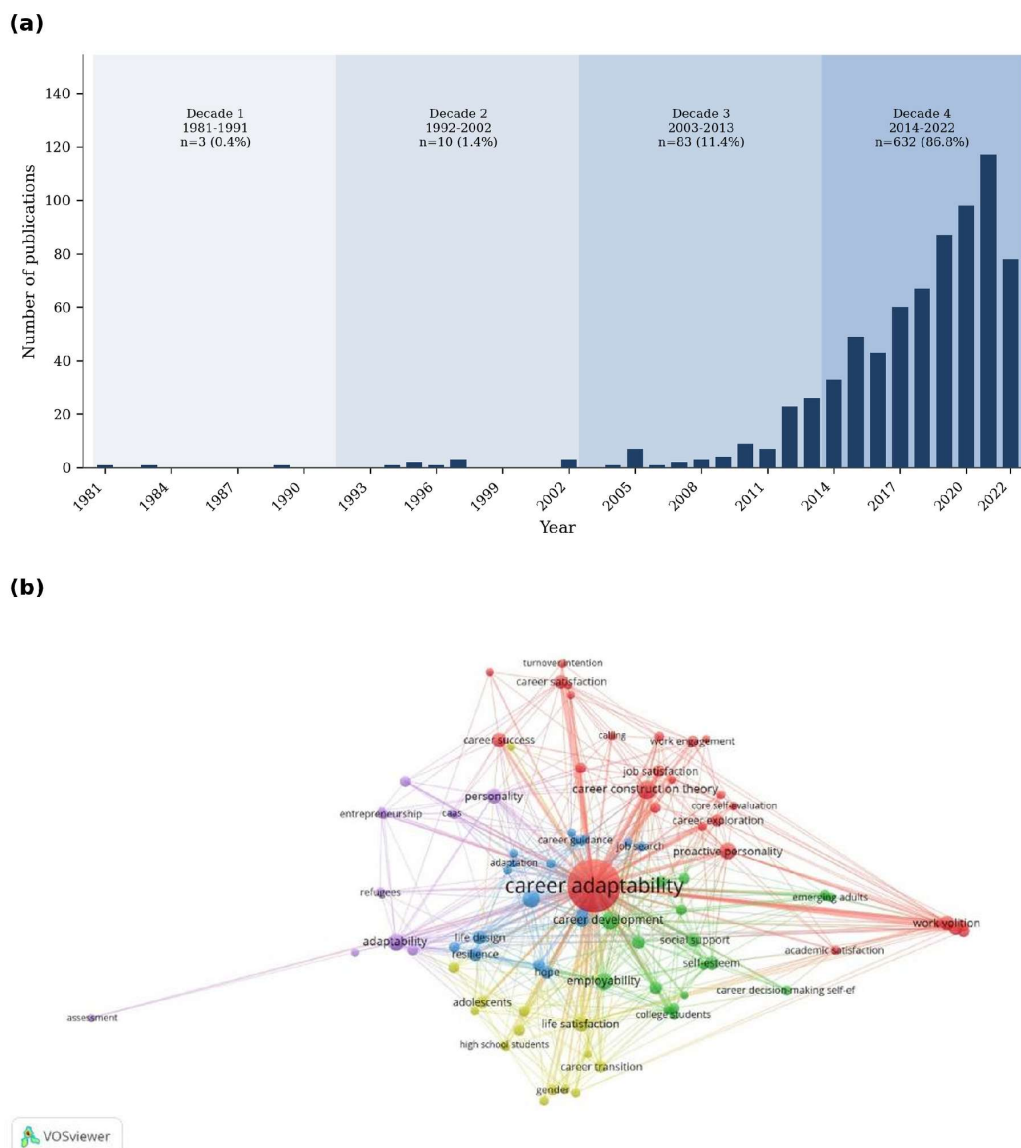


Figure 1. Bibliometric Overview of Career Adaptability Research, 1981-2022. (a) Growth of Publications by Decade; (b) Keyword Co-occurrence Network
Source: Author's analysis of Scopus-indexed publication data (n=727), 1981-2022 (a); Author's Bibliometric Analysis via VOSviewer, based on the Same Corpus (b)

The accompanying PRISMA systematic review of 80 studies converged on findings consistent with the broader literature: graduates of vocational schools remain structurally vulnerable in the school-to-work transition, and effective preparation programs share features such as private-sector involvement, integration of social and personal competencies and work ethic, participant follow-up, and structured recruitment linkage. Two lessons were carried into the design work. The literature offers strong instrumentation through the CAAS but thin development of guidance frameworks that couple adaptability resources with life-meaning constructs (Swastika & Sudjani, 2023). Whether adaptability guidance belongs within formal schooling or in the post-graduation transition window also remained an open question until the empirical phases settled it (Suciningrum et al., 2023).

Career Adaptability Problems of Vocational Students and Graduates

Survey findings. Teachers affirmed that instruction in SMK is planned and delivered toward work readiness. Agreement was nearly unanimous that learning aims at preparing students for work, that learning objectives follow labor market demands, and that evaluation covers both theory and practice, with fewer than 3% disagreeing. The survey nonetheless exposed four gaps between this instructional confidence and graduates' career outcomes. The most striking gap concerns recognition of competency: 76.35% of respondents said SMK graduates do not hold industry competency certificates that would formally recognize the abilities they acquired at school (Salzmann et al., 2024).

Labor market perception is a second point of tension: a majority (64.53%) rejected the framing of SMK graduates as the dominant contributors to open unemployment, and only 20.2% considered graduates' job opportunities to be narrow, suggesting the problem lies in readiness rather than in opportunity scarcity. Views on field congruence diverged as well: only 35.71% expected graduates to work strictly within their field of training, a plurality (42.36%) accepted employment outside the field, and 21.92% set no employment target at all.

Table 1. Summary of Focus Group Discussion Findings on Competency Adequacy and Career Problems of SMK students and Graduates, by Stakeholder Group

Respondent group	Competency adequacy	Career problems
Vocational subject teachers	Curriculum-referenced, competency-oriented instruction; guest instructors reinforce work competencies; competency conditioning is easy for students whose passion matches their major	Not all teachers understand current workplace conditions; industry standards vary; many students feel they chose the wrong major; competencies remain dominated by hard skills, while soft employability skills are lacking.
Career counselors	Guidance materials cover self-understanding, job types, and person-job fit; group and individual formats; job fairs and career provisioning for final-year students.	No dedicated guidance hours; career services focus on internal programs with no alumni career monitoring; students report difficulty with post-school career follow-up; mismatch between industry demands and school provision
School managers (industrial relations)	Partnerships average 50 industries per school; competency certification facilities exist; government tracer study available.	Difficulty exploring students' interests and career follow-up; certificates are hard to actualize; students do not know occupational ladders; many placed graduates do not last long in their jobs
Industry partners (human resources)	Vocational fundamentals and hard skills are adequate; students adapt within 1-2 months once task expectations are explained.	Analytical capacity needs improvement; discipline, attitude, communication, and work ethic must be improved; prior work experience or portfolio is advisable; work adaptation should be nurtured from school age.

Source: Focus Group Discussion, 2024

The last gap surrounds the transition period: graduates typically need about six months to enter employment, and more than 90% of respondents endorsed a dedicated three-month career guidance program covering work activities, work culture, career ladders, workplace adaptation, and competency testing and certification (Yusop et al., 2024), with reinforcement needed more on employability soft skills than on hard skills. The four stakeholder groups converged on a diagnosis summarized in **Table 1**.

The Vocational Career Table (VCT) Model

Synthesizing both strands, the graduates' career adaptability gap maps onto the four CAAS dimensions: insufficient future career planning (concern), limited understanding of the benefits and risks attached to career-ladder stages (control), weak realistic knowledge of the characteristics of intended occupations (curiosity), and incomplete conviction to act on interests through problem-solving in career decisions (confidence). These gaps justified an in-school guidance intervention rather than a post-graduation one, designed to complement, not duplicate, vocational instruction.

Design. The development workshop crossed the career adaptability aspects (concern, control, curiosity, and confidence, plus a fifth aspect, career path, added as a career-ladder guide) with the four ikigai elements (what you love, what you are good at, what you can be paid for, what the world needs). The resulting 4 x 5 matrix (**Table 2**) generates twenty guidance activities that form the substance of the model.

Table 2. Matrix of career adaptability aspects and ikigai elements generating the twenty guidance activities of the VCT model

Career adaptability aspect Ikigai element	Concern	Control	Curiosity	Confidence	Career path
What you love (mission-passion)	Responsibly obtaining career-ladder information	Assertively determining career opportunities	Identifying career success factors	Fulfilling career requirements	Having a career plan
What you are good at (passion-profession)	Optimistically improving competency	Persevering in activities toward career peak	Striving maximally to reach career peak	Possessing optimal competency implemented professionally	Holding recognized proof of competency
What you can be paid for (profession-vocation)	Performing to industry standards	Improving performance to industry standards	Working enthusiastically and professionally	Presenting one's best self in professional communities	Having a career place that fulfills one's needs
What the world needs (vocation-mission)	Actualizing competency that meets the needs of society, industry, and technology	Maintaining competency with discipline	Performing optimally to global standards	Possessing competency that meets industry and societal needs	Contributing to community advancement

Source: Development workshop, 2024

The twenty activities were grouped into seven competency clusters based on homogeneous achievement targets: character habituation, achievement actualization, personal and social competency, industry-standard professional competency, determining a career ladder based on owned competency, certification, and obtaining work qualification. Achievement of all clusters constitutes the indicator of a student's career adaptability, recorded in a guidance journal validated by the school career counselor and evidenced through a portfolio.

Public test. Socialization to the West Java BKK Forum counselors produced five converging judgments: the model is a viable option for career guidance oriented toward vocational character. In contrast to existing guidance's developmental-psychology focus, it operationalizes vocational values within the contextual career environment; fulfillment of all competency clusters constitutes early adaptation to professional work and reflects the student's *ikigai* in vocational education; the model brings industry into school-based guidance; and simulation should proceed through dissemination adapted to each school's career development characteristics.

The student reflection survey ($n = 1,798$; 20 items; scale 1-4) showed general fulfillment of the career adaptability components. Aggregate scores were relatively high for career concern and career curiosity and relatively low for career control, career confidence, and career path. Item-level means ranged from 2.99 to 3.47. Two items fell below 3.00: item 14, "My work ability is already highly optimal, so it can be implemented in professional activity" (confidence x what you are good at; $M = 2.999$), and item 18, "I hold authentic proof (certificates) for every work competency I possess" (career path x what you are good at; $M = 2.994$). Items 7 ($M = 3.083$) and 16 ($M = 3.056$) were also comparatively low. These results identified career confidence and career path within the "what you are good at" dimension as priorities for model revision, aligning with the survey finding that 76.35% of graduates lack competency certification.

Iterative refinement and final structure. Counselor recommendations from the dissemination added four refinements. These recommendations held that guidance should remain flexible to career-requirement demands and participants' age, that the *ikigai* concept should be adapted to Indonesian local character, that certification should reference the national professional certification body (BNSP) and/or vendor- and industry-issued certification, and that target standards should combine Indonesian standards with globally recognized industry standards. These recommendations triggered rebuild and reconceiving cycles before finalization. The final structure organizes the seven material clusters into the five guidance stages of Touch, Actualization, Build, Level Up, and Encourage, delivered in parallel with formal schooling over six semesters and totaling 96 lesson hours (**Table 3**).

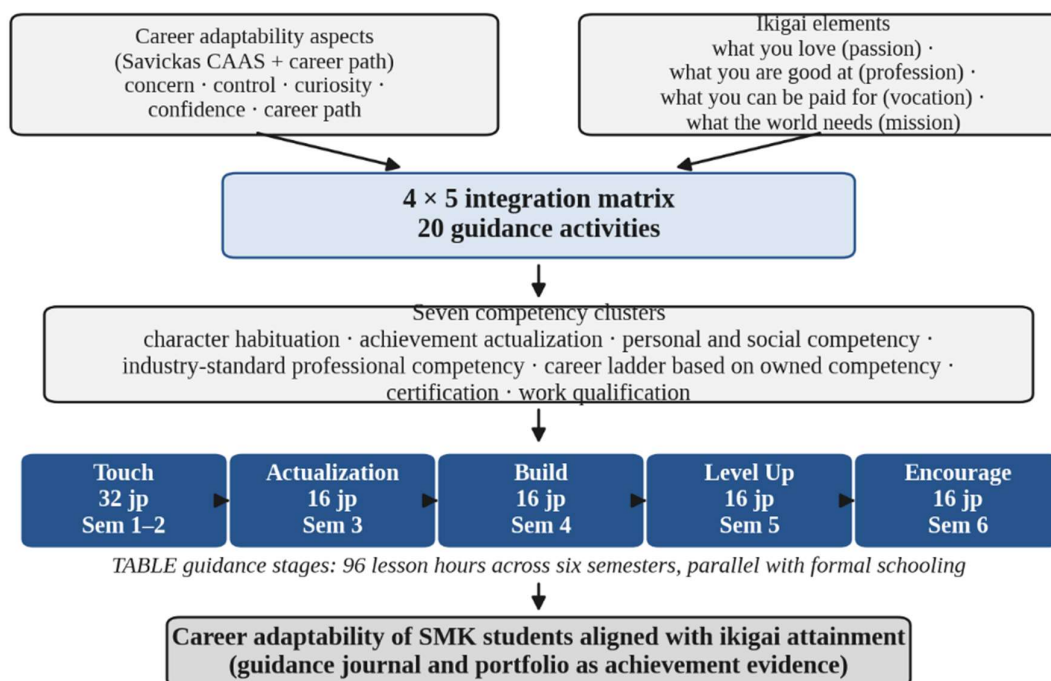


Figure 2. VCT Framework
Source: Design Workshop, 2024

Figure 2 summarizes the resulting architecture of the model, from the theoretical sources through the integration matrix and competency clusters to the staged delivery and its intended outcome.

Table 3. Final Structure of the VCT Guidance Model

Stage	Material cluster	Guidance materials (examples)	Lesson hours	Placement
Touch	Character habituation	Character and discipline; professionalism; industrial work culture	32	Semesters 1-2
Actualization	Achievement actualization; personal and social competency; industry-standard professional competency	Individual and group achievement; personal competency; work competency; competency presentation; professional competency; competency actualization	16	Semester 3
Build	Career ladder based on owned competency.	Job prospects; career ladder; competency requirements; work standards; work targets	16	Semester 4
Level Up	Certification	Industry certification; competency certification	16	Semester 5
Encourage	Work qualification	Job positions; work qualification; recruitment and job application	16	Semester 6
Total			96	

Source: Model finalization, 2024

Validation. In the reflection interviews, policy stakeholders, career development communities, and vocational education experts assessed the VCT model's implementability within SMK career guidance programs. Expert consultation informed the final revision, and the complete toolkit comprising the model description, guidance guide, materials, and evaluation rubric and journal was compiled in the VCT guidance package.

Discussion

The study set out to translate two bodies of theory, career construction and ikigai, into a guidance architecture that vocational schools can actually run. Three aspects of the findings deserve comment. The diagnosis relocates the SMK employability problem from skill formation to career adaptability. Teachers and industry agree that hard skill formation largely succeeds. What fails is the psychosocial infrastructure of careers: certification that converts competency into recognized capital, realistic knowledge of occupational ladders, employability soft skills, and future planning. A similar picture emerges in the broader evidence, where vocational graduates prove structurally vulnerable in the school-to-work transition and transitions improve when preparation integrates work ethics, social competencies, and recruitment linkage.

That SMK graduates still topped Indonesia's unemployment statistics in 2025 (See: <https://www.bps.go.id/id/publication/2025/12/19/42a75ee61332755586fdfcdd/keadaan-angkatan-kerja-di-indonesia-agustus-2025.html>) suggests curriculum reform alone has not resolved the problem, and it strengthens the case for intervening on the guidance side. One survey result deserves particular attention here: a plurality of teachers accept out-of-field employment (42.36%) even as industry partners lament weak career persistence, so low expectations of field congruence may themselves be normalizing mismatch, an argument for building concern and control early. Compared with existing career adaptability interventions (Gülşen et al., 2021), the design departs in two respects. The VCT matrix couples each adaptability resource to a meaning-of-life anchor, so that career control, for example, is exercised not abstractly but in relation to what the student loves and what the world needs.

The link between adaptability and life satisfaction is thereby built into the guidance content itself rather than treated as a correlated outcome, thereby answering calls in recent scholarship to connect purpose constructs such as ikigai with career development practice (Sartore et al., 2023). The second departure is the addition of career path as a fifth aspect, in response to the specifically vocational problem documented in the FGD that students do not know the occupational ladders their training feeds into. The staging then sequences the matrix developmentally across six semesters, embedding guidance inside formal schooling rather than the post-graduation window, consistent with the survey evidence that the six-month waiting period is better spent consolidating than beginning career preparation.

The test evidence is diagnostic rather than merely evaluative. **Figure 3** consolidates the public test results: panel (a) shows that the dimension means derived from the 1,798 student responses in 57 vocational schools place career concern (3.36) and career curiosity (3.34) above career control (3.17), career path (3.16), and career confidence (3.13), while panel (b) locates the two items falling below the 3.00 threshold, item 14 (2.999) and item 18

(2.994). Both sub-threshold items sit in the "what you are good at" column, so the weakest link is students' confidence in, and certified proof of, their own competency, the same deficit the survey identified institutionally (76.35% without certificates).

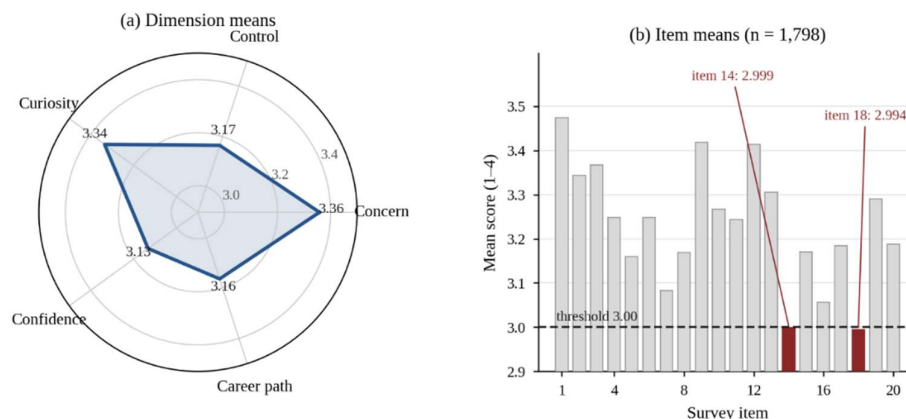


Figure 3. Public Test
Source: Design Workshop, 2024

When independent data streams converge on a single deficit, the revision priorities gain validity, and the episode shows DBR doing what it is meant to do: letting practitioner and user feedback discipline the design (Easterday et al., 2014). The counselor recommendation to localize ikigai to Indonesian cultural character deserves a note of its own. It aligns with broader arguments for cultural situatedness in career guidance (Zahid & Staunton, 2022), and it marks the model as an adaptation, not an import, of the Japanese concept.

Implications

Schools gain a structured, measurable guidance curriculum that subject teachers, counselors, and job placement units can co-deliver alongside instruction from grade 10 onward, in any field cluster. Industry gains a channel to acquire qualified, adaptable employees through guidance integrated with certification and recruitment. Policymakers, meanwhile, can treat the model as a reference for regulating career development follow-up in vocational education, including recognition of current competencies and the positioning of BKK units; the persistently high unemployment rate among SMK graduates makes that question hard to postpone (see: <https://www.scribd.com/document/577617855/1-Kepmen-165-2021-Program-SMK-Pusat-Keunggulan>). On the theoretical side, the study extends career construction research by demonstrating a content-level integration of adaptability resources with purpose constructs in a TVET population, in line with the field's movement toward decent work and work volition themes identified in the bibliometric analysis and echoed in recent reviews (Atay et al., 2026).

Limitations

The findings carry four caveats. The public test measured students' perceived fulfillment of adaptability components after dissemination; it did not estimate causal effects of the model on adaptability growth, which requires controlled or longitudinal designs. The bibliometric

corpus closes in 2022, and although recent reviews point to continuity in the field's trajectory (Haryadi et al., 2024), an updated mapping would sharpen the model's positioning against the latest literature. The empirical phases were also concentrated in West Java. The province hosts the largest SMK population, and the BKK Forum performs national functions, but cross-provincial replication is needed before national claims can be made. Finally, vocational schools are heterogeneous so that delivery methods will vary; labor market qualifications keep evolving, so guidance materials need continuous revision; and the Encourage stage stands or falls with the strength of each school's industry partnerships (Hatane et al., 2021).

CONCLUSION

This study set out to answer three questions about career adaptability guidance for vocational high school students, using a mixed-methods Design-Based Research approach. In research trends, career adaptability has matured from a marginal topic into a sustained international field, with the frontier shifting toward meaning and work volition. On the problems vocational students and graduates face, the findings show these problems stem less from technical skill deficits than from gaps in certification, career-ladder knowledge, employability soft skills, and future planning. On the guidance framework question, crossing five career adaptability aspects (concern, control, curiosity, confidence, career path) with four ikigai elements (passion, profession, vocation, mission) yielded the VCT: twenty activities in seven competency clusters delivered through five stages over 96 lesson hours across six semesters. Public testing with 1,798 students across 57 schools and expert validation supported the model's implementability and guided refinement toward career confidence and certified recognition of competency. Future research should quantify the model's effects on standardized adaptability measures, extend testing beyond West Java, update the bibliometric mapping beyond 2022, and exploit digital delivery to broaden reach.

AUTHOR'S NOTE

The authors declare that there is no conflict of interest related to the publication of this article. The authors affirm that the data and content of this article are free from plagiarism.

Funding. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethics and consent. The research was conducted in accordance with the doctoral research protocols of the School of Postgraduate Studies, Universitas Pendidikan Indonesia. All participants were informed of the purpose of the study and provided informed consent prior to participating in the surveys, focus group discussions, and interviews; participation was voluntary, and responses were collected and reported in anonymized form.

Data availability. The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author contributions. Rudi Haryadi: conceptualization, methodology, investigation, formal analysis, data curation, writing - original draft, project administration. M. Muktiarni: supervision, validation, writing - review & editing. Muh Abdul Latif: supervision, validation, writing - review & editing. All authors read and approved the final manuscript.

Acknowledgement. The authors thank the participating vocational teachers, the West Java BKK Forum and the school counselor community, the industry partners, and the expert validators for their contributions to this research.

REFERENCES

- Astuti, N. F. V., & Setyonaluri, D. (2022). Labor market outcomes of vocational high schools (SMK) and general high schools (SMA) during the COVID-19 pandemic. *The Journal of Indonesia Sustainable Development Planning*, 3(3), 278-293.
- Atay, B., Cingöz-Ulu, B., Autin, K. L., & Allan, B. A. (2026). Work volition and decent work: A meta-analysis. *Career Development Quarterly* 74(2), 86-89.
- Basyarah, S. F., Marjo, H. K., & Herdi, H. (2021). Pengembangan program bimbingan karier untuk meningkatkan adaptabilitas karier siswa jurusan IPA SMA Negeri 7 Bekasi. *Jurnal Mahasiswa BK An-Nur: Berbeda, Bermakna, Mulia*, 7(3), 13-20.
- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative Research in Psychology*, 18(3), 328-352.
- Buyukcolpan, H., & Ozdemir, N. K. (2025). Decent work in TVET: Examining predictors and outcomes of perception of future decent work among Turkish vocational high school students. *Journal of Career Assessment*, 1(1), 1-22.
- Colicchia, C., & Strozzi, F. (2012). Supply chain risk management: A new methodology for a systematic literature review. *Supply Chain Management: An International Journal*, 17(4), 403-418.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133(1), 285-296.
- Easterday, M. W., Lewis, D. R., & Gerber, E. (2014). Design-based research process: Problems, phases, and applications. *Proceedings of the International Conference of the Learning Sciences*, 1(1), 317-324.
- Fatmawati, S., Khotimah, I. K., Miftakhudin, M., & Kuat, T. (2026). Peran bimbingan karier vokasional terhadap kesiapan kerja siswa SMK Muhammadiyah Sumowono. *Indo-MathEdu Intellectuals Journal*, 7(1), 246-255.
- Guan, Y., Zhou, X., Zheng, Y., Wen, S., Fu, Y., Hu, N., Fu, A., Han, Y., & Wang, Z. (2022). Role of perceived events in university graduates' job search self-efficacy and success. *Journal of Vocational Behavior*, 136(1), 1-21.
- Gülşen, C., Seçim, G., & Savickas, M. (2021). A Career construction course for high school students: development and field test. *Career Development Quarterly*, 69(3), 201-215.
- Hamidah, T., Putri, O. F., Kurniawan, T., Puspitasari, E. I., Khotimah, K., & Suryawati, C. T. (2022). Problematika bimbingan dan konseling bidang karir siswa SMK: A systematic literature review (SLR). *Terapeutik: Jurnal Bimbingan dan Konseling*, 5(3), 294-304.

- Haryadi, R., Abdullah, A. G., & Widiaty, I. (2024). Tracing the trajectory of vocational education research on career adaptability: A bibliometric study. *Journal of Education and Learning (EduLearn)*, 18(4), 1173-1186.
- Hatane, S. E., Gunawan, F. A., & Pratama, S. W. (2021). Intrinsic motivation, career exposure, and quality of life: How do they influence the accounting students' career choice?. *Journal of Education and Learning (EduLearn)*, 15(3), 335-345.
- Kamaruzaman, F. M., Nik Othman, N. N. J., Omar, M., & Mohd Zaid, M. F. A. (2025). Future generic skills for technical vocational education graduates. *International Journal of Learning, Teaching and Educational Research*, 24(3), 312-332.
- Kasili, M., Pramudibyo, S., Rahmandan, H., Lahamutu, M. R. A., Aldio, T., Yanino, R. M., & Umar, A. (2025). Systematic literature review: Evaluasi implementasi Kurikulum Merdeka di SMK dalam menghadapi tantangan Industri 4.0. *Jambura Journal of Engineering Education*, 4(2), 11-17.
- Millán, Á., García-Unanue, J., & Retamosa, M. (2023). Which career should I choose? Application of a pre-university vocational guidance platform based on the Ikigai methodology. *International Conference on Higher Education Advances*, 1(1), 533-540.
- Pinem, M. L., & Asri, D. N. (2026). The effectiveness of career guidance services based on career adaptability in improving students' job readiness: An experimental study at vocational school. *Konseli: Jurnal Bimbingan dan Konseling (E-Journal)*, 13(1), 75-82.
- Putranto, F. G. F., Natalia, C., & Pitriyani, N. K. D. (2024). Closing the gap between education and labor market requirement: Do vocational education matter?. *The Journal of Indonesia Sustainable Development Planning*, 5(3), 181-191.
- Ristianti, D. H. (2022). Implementasi layanan bimbingan dan konseling di dunia kerja. *Attractive: Innovative Education Journal*, 4(3), 480-485.
- Salzmann, P., Haemmerli, C. A., Engelage, S., & Baumeler, C. (2024). Facilitators of and barriers to recognition of prior learning in higher vocational and professional education. *Journal of Vocational Education & Training*, 77(4), 1005-1023.
- Santika, A., Simanjuntak, E. R., Amalia, R., & Kurniasari, S. R. (2023). Peran pendidikan sekolah menengah kejuruan dalam memposisikan lulusan siswanya mencari pekerjaan 1.2.3.4. *Jurnal Kajian, Penelitian dan Pengembangan Kependidikan*, 14(1), 84-94.
- Sartore, M., Buisine, S., Ocnareescu, I., & Joly, L. R. (2023). An integrated cognitive-motivational model of ikigai (purpose in life) in the workplace. *Europe's Journal of Psychology*, 19(4), 387-400.
- Savickas, M. L., & Porfeli, E. J. (2012). Career adapt-abilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, 80(3), 661-673.
- Sobari, M., Wahyudin, D., & Dewi, L. (2023). Keterlibatan industri dalam pengembangan kurikulum pada tingkat SMK. *Jurnal Education and Development*, 11(3), 230-238.

- Suciningrum, F., Paramita, W., & Wiradendi Wolor, C. (2023). Pengaruh harga diri dan dukungan sosial terhadap adaptabilitas karir pada fresh graduate yang bekerja di DKI Jakarta. *Jurnal Ilmu Psikologi dan Kesehatan*, 1(3), 225-232.
- Sulistiani, W., Suminar, D. R., & Hendriani, W. (2018). The career adapt-abilities scale-Indonesian Form: Psychometric. *The 4th International Conference on Education*, 4(2), 1-9.
- Super, D. E., & Knasel, E. G. (1981). Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance and Counseling*, 9(2), 194-201.
- Swastika, D. R., & Sudjani. (2023). The career adaptability potential of vocational high school students from a digital literacy perspective. *Jurnal Pensil: Pendidikan Teknik Sipil*, 12(1), 22-32.
- Triyadi, M. I. (2023). Ikigai : Filosofi hidup bahagia orang Jepang. *Literaksi: Jurnal Manajemen Pendidikan*, 1(2), 209-214.
- van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523-538.
- Wagiran, W., Pardjono, P., Triyono, M. B., Pratama, G. N. I. P., & Köhler, T. (2023). The future of vocational competence: Perspective of vocational teachers, industries, and educational expert. *International Journal of Instruction*, 16(4), 543-560.
- Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development*, 53(4), 5-23.
- Widyawati, M. L., Istiyono, E., & Setiawati, F. A. (2025). Adaptasi dan validasi instrumen Career Adapt-Abilities Scale (CAAS) versi bahasa Indonesia untuk mengukur kesiapan karier siswa SMK. *Nusantara: Jurnal Pendidikan Indonesia*, 5(4), 861-874.
- Yusop, S. R. M., Rasul, M. S., & Yasin, R. M. (2024). Challenges, strengths, and relevance of integrating classroom-based assessment in technical and vocational education training. *International Journal of Evaluation and Research in Education*, 13(4), 2440-2449.
- Zahid, G., & Staunton, T. (2022). The place of culture in the training of career guidance educators. *British Journal of Guidance and Counseling*, 50(6), 997-1008.