

DEVELOPING A HOLLAND-BASED WEB CAREER GUIDANCE PLATFORM FOR MADRASAH STUDENTS: A PRELIMINARY VALIDITY AND PRACTICALITY STUDY

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Abstract

Career decision-making is a major developmental task during late adolescence, yet students in secondary Islamic schools may have limited access to structured, individualized, and digitally accessible career guidance. This study aimed to develop and conduct a preliminary evaluation of a web-based career guidance platform grounded in Holland's RIASEC framework for students at Madrasah Aliyah Negeri (MAN) Enrekang, Indonesia. A research-and-development design was employed by adapting the Borg and Gall framework to six operational stages: needs analysis, product planning, initial development, expert validation, product revision, and limited practicality testing. Participants comprised guidance-and-counseling content experts, media experts, school counselors, and students. Data were collected through validation questionnaires, practicality questionnaires, interviews, and observations and were analyzed using descriptive quantitative and qualitative procedures. The developed platform integrates a RIASEC-based career-interest assessment, explanations of the six vocational-interest types, career and educational information, career recommendations, and a counselor-facing function for reviewing students' assessment results. According to the source study, expert appraisal classified the platform as valid, while responses from counselors and students classified it as practical and usable. However, the original manuscript does not report the underlying validity coefficients, number of validators, participant numbers in the practicality trial, or a standardized measure of career decision-making; therefore, claims that the platform is effective in improving career decision-making are not warranted from the reported evidence. The study contributes a context-sensitive model for integrating Holland's RIASEC framework into digitally mediated school career guidance and provides a foundation for subsequent effectiveness testing using validated career decision-making outcomes and stronger experimental or quasi-experimental designs.

Keywords: web-based career guidance, Holland RIASEC, career exploration, career decision-making, school counseling, madrasah; digital counseling

Abstrak

Pengambilan keputusan karier merupakan salah satu tugas perkembangan utama pada masa remaja akhir. Namun, siswa di sekolah menengah berbasis Islam mungkin masih memiliki keterbatasan dalam memperoleh layanan bimbingan karier yang terstruktur, individual, dan dapat diakses secara digital. Penelitian ini bertujuan untuk mengembangkan dan melakukan evaluasi awal terhadap platform bimbingan karier

berbasis web yang berlandaskan kerangka teori Holland RIASEC bagi siswa Madrasah Aliyah Negeri (MAN) Enrekang, Indonesia. Penelitian ini menggunakan desain penelitian dan pengembangan (Research and Development) dengan mengadaptasi model Borg dan Gall ke dalam enam tahapan operasional, yaitu analisis kebutuhan, perencanaan produk, pengembangan produk awal, validasi ahli, revisi produk, dan uji kepraktisan secara terbatas. Partisipan penelitian terdiri atas ahli materi bimbingan dan konseling, ahli media, guru bimbingan dan konseling, serta siswa. Data dikumpulkan melalui angket validasi, angket kepraktisan, wawancara, dan observasi, kemudian dianalisis menggunakan teknik deskriptif kuantitatif dan kualitatif. Platform yang dikembangkan mengintegrasikan asesmen minat karier berbasis RIASEC, penjelasan mengenai enam tipe minat vokasional, informasi pendidikan dan karier, rekomendasi karier, serta fungsi bagi konselor untuk meninjau hasil asesmen siswa. Berdasarkan penelitian sumber, penilaian ahli mengklasifikasikan platform sebagai valid, sedangkan respons konselor dan siswa mengklasifikasikannya sebagai praktis dan dapat digunakan. Namun, manuskrip asli tidak melaporkan koefisien validitas, jumlah validator, jumlah partisipan dalam uji kepraktisan, maupun ukuran terstandar mengenai pengambilan keputusan karier. Oleh karena itu, klaim bahwa platform tersebut efektif dalam meningkatkan pengambilan keputusan karier belum dapat dibenarkan berdasarkan bukti yang dilaporkan. Penelitian ini memberikan kontribusi berupa model yang kontekstual untuk mengintegrasikan kerangka RIASEC Holland ke dalam layanan bimbingan karier berbasis digital di sekolah serta menyediakan dasar bagi pengujian efektivitas lebih lanjut menggunakan ukuran pengambilan keputusan karier yang tervalidasi dan desain eksperimental atau kuasi-eksperimental yang lebih kuat.

Kata kunci: bimbingan karier berbasis web, Holland RIASEC, eksplorasi karier, pengambilan keputusan karier, bimbingan dan konseling sekolah, madrasah, konseling digital

INTRODUCTION

Career decision-making during adolescence involves more than selecting an occupation. It requires young people to develop self-knowledge, explore educational and occupational alternatives, evaluate contextual constraints, and translate preferences into realistic plans. These processes become particularly consequential near the end of secondary education, when students must often choose among further study, vocational training, employment, or other pathways (Savickas, 2005). Recent research continues to identify career decision-making self-efficacy as an important psychological resource during this transition, while digital career interventions are increasingly being explored as ways of extending access to structured support. A 2025 study of a mobile career-counseling application in eastern Indonesia, for example, reported gains in several dimensions of career decision-making self-efficacy following a six-week intervention, while also identifying continuing challenges in occupational information and problem solving (Oktaviana et al., 2026).

Career guidance is increasingly intersecting with digital technology. Web- and mobile-based tools can provide repeated access to assessment, career information, self-exploration activities, and counselor-supported reflection beyond the limited time available for face-to-face school counseling (Staunton, 2025). Nevertheless, digital delivery should not be equated automatically with effectiveness. A digital career tool

needs a defensible theoretical framework, accessible information architecture, appropriate assessment procedures, and clear pathways from self-assessment to exploration and decision-making (Hooley & Staunton, 2020). Recent intervention research likewise suggests that structured career guidance can strengthen adolescents' career self-efficacy and career goals, although effects may differ across outcomes.

Holland's theory of vocational personalities and work environments provides a useful framework for structuring such a platform. The RIASEC model distinguishes six vocational-interest orientations—Realistic, Investigative, Artistic, Social, Enterprising, and Conventional—and proposes that vocational behavior is partly shaped by the fit between individuals' characteristics and their environments (Brown & Lent, 2004). The framework has also been used empirically with Indonesian secondary-school students. A large dataset from Surabaya, for example, used Holland-based career-interest measurement across the six RIASEC domains and demonstrated meaningful variation in students' career interests.

Despite the usefulness of RIASEC, an assessment alone does not constitute comprehensive career guidance. Students need opportunities to interpret their profiles, compare alternatives, connect interests with educational pathways, and discuss implications with a counselor. A web platform can therefore be most useful when it functions as a structured career-exploration environment rather than as an automated occupational-selection device (Brown & Lent, 2004).

The Indonesian madrasah context provides a relevant but underrepresented setting for examining this issue. Students in Madrasah Aliyah negotiate educational and career pathways within a distinctive institutional environment that combines general education with Islamic studies. The source study identified limited career-guidance media, limited service time, and students' need for more accessible digital career information at MAN Enrekang.

Accordingly, the study addresses three development questions: (1) What career-guidance needs should be addressed by a digital platform for MAN Enrekang students? (2) How can Holland's RIASEC framework be translated into a web-based career-guidance platform? and (3) To what extent is the resulting platform considered valid and practical by experts, counselors, and students? The study treats validity and practicality as preliminary development outcomes and does not infer effectiveness in changing career decision-making without a direct outcome measure.

Holland's model conceptualizes vocational interests through six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The model remains influential because it offers a parsimonious language for organizing vocational interests and considering person–environment correspondence (Brown & Lent, 2004). In a school counseling platform, its primary value is to support structured self-exploration and discussion of potentially congruent educational and occupational environments.

Digital career guidance can extend the reach and continuity of counseling services by providing students with asynchronous access to self-assessment and career information. Recent evidence from Indonesia indicates growing experimentation with mobile and web-based career guidance, including interventions targeting career decision-making self-efficacy. □cite□turn0search0□turn0search2□ However, a digital tool should specify what students do after receiving an assessment result and how counselors use the information in subsequent guidance.

Career assessment should be positioned as one component of a broader decision-support process. RIASEC scores can help students articulate interests, but informed career decisions also require occupational information, educational requirements, perceived self-efficacy, goals, and contextual considerations. Contemporary career research continues to emphasize self-efficacy and contextual influences on career choice, suggesting that digital tools should facilitate reflection rather than replace counseling judgment.

METHOD

Research design

This study employed a research-and-development design (Richey & Klein, 2014). The source manuscript states that the development procedure adapted Borg and Gall's framework and was simplified for the research context. For methodological transparency, the adapted procedure is specified as six stages: (1) needs analysis; (2) product planning; (3) initial product development; (4) expert validation; (5) product revision; and (6) limited practicality testing (Borg & Gall, 1983).

Development context and participants

The development was conducted at Madrasah Aliyah Negeri Enrekang, South Sulawesi, Indonesia. The source manuscript identifies four participant groups: guidance-and-counseling content experts, media experts, school counselors, and students. The exact number, selection criteria, demographic characteristics, and professional qualifications of each group are not reported in the source.

Needs analysis

Needs analysis was conducted to identify students' career-planning needs and limitations of existing career-guidance services. The source reports that students needed digital media that was accessible, attractive, and capable of helping them understand personal potential and career alternatives. Interviews and observations were also used to identify practical constraints in school career-guidance provision.

Platform design

The platform was designed around Holland's RIASEC framework and incorporated four principal functions: (a) a career-interest assessment; (b) explanations of RIASEC types and characteristics; (c) educational and occupational information and recommendations;

and (d) a counselor-facing function for reviewing students' assessment results. The design connects self-assessment with career exploration while retaining the counselor as an interpretive and supportive actor.

Validation and practicality instruments

The source manuscript reports validation and practicality questionnaires covering content quality, media design, usability, and perceived usefulness. For international reporting, the final manuscript should specify the number of items, response scale, scoring procedure, content domains, and evidence of content validity. If Aiken's V , item-level CVI, or another formal coefficient was calculated, report the coefficient and confidence interval. If no formal coefficient was calculated, describe the procedure as structured expert appraisal and avoid presenting categorical judgments as psychometric proof.

Data analysis

Quantitative validation and practicality data were summarized descriptively according to the scoring procedure used in the original study. Qualitative data from interviews and observations were used to identify revision priorities. The final submission should specify the exact formula used to convert ratings to percentages or indices and the prespecified thresholds for validity and practicality categories.

RESULT AND DISCUSSION

Needs analysis

The needs analysis indicated that students required more accessible and engaging career-guidance resources. The source manuscript reports that many students had not developed mature career plans and expressed a need for digital support to identify personal potential and explore suitable career alternatives. Because frequencies, percentages, item-level needs scores, and qualitative excerpts are not reported, these findings should remain descriptive rather than be presented as prevalence estimates.

Developed platform

The resulting platform integrates RIASEC assessment, explanations of vocational-interest types, career and study information, recommendations linked to students' profiles, and a counselor interface for monitoring assessment results. The design is intended to create a sequence from self-understanding to career exploration and counselor-supported interpretation.

Expert validation

The source study reports that content and media experts judged the platform valid and suitable for use after revision. Content experts considered the career-guidance material consistent with counseling principles and relevant to students' developmental needs. Media experts evaluated the interface, navigation, and functionality positively while providing recommendations for improvement.

Practicality testing

The source manuscript reports positive responses from school counselors and students. Counselors perceived the platform as useful for supporting career services under time constraints, while students described it as accessible, attractive, and helpful for understanding vocational interests and career alternatives.

DISCUSSION

The central contribution is the translation of a well-established vocational-interest framework into a digitally mediated school counseling environment. Rather than presenting RIASEC as a stand-alone test, the platform places assessment within a sequence of self-exploration, information access, and counselor-supported interpretation. This is important because career decision-making is a developmental process rather than a single psychometric event.

The relevance of this approach is supported by recent evidence that digital career interventions can be feasible vehicles for strengthening career decision-making resources among adolescents (Hirschi et al., 2014). A 2025 Indonesian study of a mobile career-counseling application found improvements in career decision-making self-efficacy following a six-week intervention, while occupational information and problem-solving remained challenging areas. This suggests that digital career tools should not stop at assessment results; they should help students interpret information and translate it into realistic decisions. The platform also aligns with evidence that RIASEC remains useful for organizing adolescents' vocational interests. Indonesian data from Surabaya demonstrated variation across the six RIASEC domains and showed that career-interest patterns can differ across student groups (Brown & Lent, 2004). RIASEC should nevertheless be treated as a framework for exploration rather than a deterministic rule for career choice (Super, 1980).

An important implication concerns the school counselor. The counselor-facing function is preferable to a fully automated recommendation model because assessment results can be interpreted in relation to students' goals and circumstances. The ethical and developmental task of school counseling is not simply to match students to occupations but to help them build the capacity to make informed and adaptive decisions. The findings should be interpreted cautiously. The study establishes preliminary product validity and practicality according to expert and user appraisal, but the reported evidence does not establish that the platform improves career decision-making outcomes. Demonstrating effectiveness would require a validated outcome measure, a defined intervention period, and preferably a pretest–posttest design with a comparison group or another quasi-experimental design. Recent intervention research illustrates the value of directly measuring outcomes such as career self-efficacy and career goals rather than inferring improvement from usability ratings.

Emerging research is moving toward more theory-driven and interactive digital career environments, including mobile and immersive technologies (Staunton, 2025). The

present study contributes to this direction by offering a web-based, RIASEC-grounded model for an Indonesian madrasah context.

Theoretical Contributions

Extends Holland's RIASEC framework from conventional assessment toward a digitally mediated career-exploration environment. Conceptualizes digital career guidance as a process connecting self-assessment, career information, and counselor-supported interpretation rather than automated career selection. Provides context-specific evidence from Madrasah Aliyah, an educational setting that remains comparatively underrepresented in international digital career-guidance research.

Practical Implications

School counselors can use the platform as a structured entry point for career exploration while retaining professional interpretation and follow-up counseling. Schools can provide asynchronous access to career-interest assessment and information, potentially reducing dependence on limited face-to-face service time. Future iterations should integrate updated occupational databases, educational-pathway information, accessibility features, data-privacy safeguards, and counselor training.

Limitations and Future Research

Several limitations constrain interpretation. First, the study was conducted in a single madrasah, limiting transferability. Second, the source manuscript does not report sufficient numerical information about validation and practicality trials to permit independent assessment of measurement quality. Third, it does not report a standardized pretest–posttest measure of career decision-making, career decision-making self-efficacy, or career exploration. Consequently, claims of effectiveness should not be made from the current evidence. Fourth, RIASEC should be treated as a tool for exploration rather than a deterministic algorithm for occupational choice. Future studies should evaluate the platform using a quasi-experimental or randomized design, validated career decision-making outcomes, larger and more diverse samples, and follow-up measurement. A useful next stage would compare the web platform plus counselor guidance with usual career guidance and examine whether changes in career decision-making self-efficacy, career exploration, and decision-making difficulties are sustained over time.

CONCLUSION

This study developed a web-based career guidance platform grounded in Holland's RIASEC framework for students at MAN Enrekang. The platform integrates career-interest assessment, RIASEC interpretation, educational and occupational information, career recommendations, and counselor-oriented monitoring functions. Based on the source study, experts judged the product valid and counselors and students judged it practical. However, the evidence should be described as preliminary product validation and practicality evidence rather than evidence of effectiveness in improving career decision-making. The platform represents a theoretically grounded and context-sensitive

foundation for subsequent outcome-based evaluation of digital career guidance in madrasah settings.

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