

A CONCEPTUAL FRAMEWORK FOR DEVELOPING A “DIGITAL CAREER EXPLORATION AND USAGE TOOL” FOR SECONDARY SCHOOL STUDENTS

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ABSTRACT

Current age is of digital technology and speedy growth of digital and virtual technologies like websites, portals, apps and other online resources has changed the conventional ways and methods in which school students search information for academic and career-related opportunities. Digital platforms such as online career portals, career apps, institutional websites, career counselling applications, online videos have emerged as significant sources of career information, guidance and career planning. Apart from this increased technological access to students often show difference in levels of awareness, readiness, and purposeful engagement of these digital career resources.

This paper is a concept paper that proposes a conceptual framework for developing a research tool i.e. “Digital Career Exploration and Usage Tool” for secondary school students, particularly those studying in Class 10th and Class 12th in government school students in the State of Uttarakhand. This research paper identifies major dimensions associated with digital career exploration readiness, including digital access, awareness, exploratory behaviour, information-search skills, confidence in using digital platforms, and participation in structured digital career activities.

Analysis of existing literature related to digital career literacy theories, and contemporary educational technology frameworks, the paper highlights the need for a structured assessment tool competent of identifying behavioural differences and readiness levels among school students. This proposed framework is expected to support policymakers, educators, school counsellors, and educational technology developers in strengthening digital career guidance practices in secondary education. The paper further outlines proposed dimensions, methodological considerations, validation strategies, and educational implications for future tool development and implementation.

Keywords: *Digital career exploration, Career readiness, Digital career literacy, Secondary school students, Concept paper, Tool development, Educational technology*

1. INTRODUCTION

The fast and increasing use of digital technologies into educational systems has significantly transformed the ways students access information, and make academic as well as career-related decisions. In recent years, digital world grow digital learning ecosystems—including educational websites, online counselling portals, mobile applications, accessibility, and virtual career guidance platforms—have become increasingly important in supporting students’ academic and professional development.

Career exploration during adolescence is a decisive developmental progression, particularly for students studying in Class 10th and Class 12th. These academic stages are linked with significant educational transitions, including stream selection, planning for higher education, and future occupational decision-making. In the contemporary digital era, students

increasingly rely on online platforms to gather information regarding career opportunities, entry level information, admission procedures, scholarships, entrance examinations guidelines and preparation, and other professional pathways.

Digital platforms and recourses can therefore function as career-support system by improving career awareness, confidence, and career decision-making readiness among the students. Regardless of the growing availability of digital resources, students often differ in their levels of access of recourses, awareness, digital literacy, skills and purposeful usage of online career guidance systems. Some learners actively explore digital career resources, whereas others remain passive users of technology primarily for entertainment or communication purposes. This variation highlights the need for a structured conceptual framework capable of assessing digital career exploration behaviour and readiness among secondary school students.

Present concept paper proposes a layout and guideline for the development of a “Digital Career Exploration and Usage Tool” which is intended to assess students’ engagement with digital career resources and identify varying levels of digital readiness during the secondary and senior secondary schooling stage.

2. NEED AND RATIONALE OF THE STUDY

The increasing digitalization in all spheres of education and career guidance system it has created fresh and innovative opportunities for students to access career-related information and career support systems in the form of online and digital resources. Various government portals, educational platforms, online career counselling services, digital aptitude assessments, online assessments and virtual career programmes are important and integral element of current educational environments. But usefulness of these resources depends not only on technological availability but also on students’ readiness, awareness, confidence, exploratory behaviour and other factors. It is also extremely important to identify and quantify how these digital recourses are useful and helpful for students.

Secondary and senior secondary school students signify an important transitional phase because they are positioned at educational and career planning. Students in Class 10th begin for stream selection and initial career awareness processes, while students in Class 12th get ready for higher education and professional decision-making. At these stages, the ability to effectively utilize digital career resources becomes increasingly significant.

Though digital resources are extensively accessible in existing educational systems but they often lack in structured evaluation and assessment to assess whether these students are purposefully utilizing and engaging with digital career guidance resources. Largely available researches focused on general technology usage or e-learning adoption rather than digital career exploration and usage of these digital recourses and career exploratory behaviour specifically. Consequently, there is a strong need to conceptualize a structured a framework that capable of assessing students’ digital career readiness and identifying behavioural differences among learners.

This concept paper addresses this need by providing a theoretical and conceptual foundation for developing a Digital Career Exploration and Readiness Tool for secondary school students.

3. STATEMENT OF THE PROBLEM

Scenario of digital educational has introduced manifold online resources for career development, career guidance, career exploration and academic planning. Apart from the increasing availability of digital career guidance platforms, students show difference in

digital awareness, confidence, and purposeful engagement in digital resources. While some learners actively utilize digital platforms to search for educational and career opportunities, others remain limited in their ability to access, evaluate, and apply digital career information in their journey of career planning.

Existing researches lack structured way and assessment psychometric tool for assessing students' digital career exploration behaviour and readiness. Furthermore, limited research has examined how secondary school students engage with digital career platforms during critical educational transition stages. Therefore, there is a need to conceptualize and develop a structured framework of a psychometric tool that can assess digital career exploration and usage exploratory behaviour and readiness among Class 10th and Class 12th students.

4. RESEARCH GAP

Review of literature indicates restricted empirical and conceptual research focusing exclusively on digital career exploration behaviour among secondary school students. Existing studies have primarily concentrated on general digital learning adoption, online education, technology acceptance, and e-learning effectiveness.

Very few studies have examined:

- Digital career exploratory behaviour among secondary school students
- Class-wise differences in digital career readiness
- Stream-wise behavioural variations in digital career exploration
- Structured dimensions of digital career literacy
- Conceptual frameworks for tool development in digital career readiness
- Behavioural classification and readiness assessment through digital career constructs

Additionally, most existing studies do not adequately differentiate between digital access and meaningful digital career engagement. Therefore, there is a clear need for a conceptual framework that systematically identifies the dimensions associated with digital career readiness and exploratory behaviour.

5. OBJECTIVES OF THE CONCEPT PAPER

1. To conceptualize a framework for assessing digital career exploration and readiness among secondary school students.
2. To identify major dimensions associated with digital career exploratory behaviour.
3. To propose a structured Digital Career Exploration and Readiness Tool for Class 10 and Class 12 students.
4. To provide a conceptual foundation for future empirical validation and tool development studies.

6. REVIEW OF LITERATURE.

6.1 Digital Platforms and Career Guidance

The use of digital platforms for educational and career-related purposes has increased rapidly in recent years, with school-aged learners increasingly relying on online sources for decision-making. The OECD (2024) reported that digital technologies are becoming central to career development practices internationally, particularly because they enable flexible access to guidance tools regardless of geographical or institutional limitations.

Similarly, the International Labour Organization (2021) emphasized that digital career guidance systems can expand equity and reach, especially when formal counselling infrastructures are limited.

Incorporation of digital platforms in career requires not only technological access but also pedagogical planning is highlighted by Reid (2012). Schools must treat digital career literacy as a planned component of student development (Staunton, 2025). Recent European commentary from EPALE (2024) warned that despite increasing availability, online career information remains fragmented and requires structured student support.

6.2 Digital Career Literacy and Information-Seeking Behaviour

In digital career literacy includes the ability to access, evaluate, and apply online career information in the journey of career development. Hooley (2012) proposed the “Seven Cs of Digital Career Literacy” framework, which remains influential in understanding how young people navigate digital information systems. In another research by Vigurs (2016) found that students do not automatically possess digital evaluation skills, even if they are frequent internet users.

Several empirical studies have explored information-seeking patterns in adolescents and young adults for career planning. Study conducted by Fetherston (2019) identified perceived usefulness, confidence, and social influence as key predictors of online career information seeking. Another study showed that demographic and school type differences in adolescents’ digital career aspirations and usage patterns vary across groups (Strohmeier et al. (2024).

One of study highlighted that young individuals rely on informal online methods like e.g., YouTube, social media, search engines etc. for career decisions, rather than official career portals or structured platforms Milosheva (2024). These findings suggest that access alone does not guarantee meaningful academic use.

6.3 Digital Career Interventions

Research on online career interventions has demonstrated promising results. Herman (2010) evaluated an internet-delivered career intervention and found measurable and quantifiable improvements in career decidedness and self-knowledge. Chen et al. (2022) studied a synchronous online intervention for Chinese high school students and found significant improvements in career adaptability.

Zammiti et al. (2023) reported positive outcomes from an online life-design-based programme administered during the pandemic, particularly in resilience and future orientation. Similarly, Astuti et al. (2022) found that a digital career module improved secondary learners’ career planning readiness. Khurumova et al. (2023) concluded that students are open to digital guidance when quality content and technical clarity are present.

More recently, Masi et al. (2025) examined a mobile-based career counselling application and found improvements in career decision-making self-efficacy. Westman (2021) examined emerging applications of artificial intelligence (AI) in career guidance and argued that transparency and user agency must remain central.

6.4 Platforms, Systems, and Digital Tools for Career Readiness

Several studies have investigated digital platforms and guidance systems. Prohimi et al. (2025) demonstrated that chat-based guidance systems can enhance scalability and personalization. The OECD REACH+ initiative (2024) found that structured digital guidance integrated with school curriculum increases effectiveness.

Akaa (2025) found that technology exposure influences career awareness among secondary students in developing contexts, but guidance quality and socio-economic access moderate

the relationship. Vigurs (2016) established that digital systems work best when integrated into classrooms with practitioner support.

7. PROPOSED DIMENSIONS OF THE TOOL

Dimension	Description
Digital Access	Availability of internet, smart phone, laptop, and digital infrastructure
Awareness of Digital Career Resources	Knowledge regarding online career portals, websites, apps for digital counselling systems
Digital Resources Usage Behaviour	Frequency and regularity of using digital platforms for career-related purposes
Exploratory Search Behaviour	Intentional online searching related to educational and career opportunities
Skill Readiness and Confidence	Ability and confidence in using digital platforms independently
Participation in Digital Career Activities	Engagement in webinars, workshops, counselling sessions, and online career activities
Perceived Usefulness	Belief regarding usefulness of digital platforms in career planning
Types of Information	Which kind of career information is preferably searched
Gaps in Digital Career Search	Reasons of limitation in Digital usage behaviour for career planning

8. PROPOSED CONCEPTUAL FRAMEWORK

The proposed framework assumes that digital career exploratory behaviour and readiness is influenced by several interconnected dimensions, including access of digital infrastructure, awareness, exploratory behaviour, digital confidence, attitude, perception about digital uses and active engagement in structured digital career activities. The framework further assumes that increased purposeful engagement with digital career resources may strengthen students' career awareness, career decision-making confidence, and educational preparedness in future.

9. PROPOSED METHODOLOGY FOR TOOL DEVELOPMENT

The proposed tool development process may include the following stages:

- Identification of dimensions through literature review
- Item construction and expert validation
- Pilot study of the tool among secondary and Senior secondary school students
- Reliability and validity estimation.
- Exploratory and confirmatory factor analysis
- Standardization and validation of the instrument

Depending upon the nature of the dimensions and behavioural indicators the proposed tool may use dichotomous or Likert-type response formats.

10. EXPECTED EDUCATIONAL IMPLICATIONS

This proposed layout and framework of the tool may contribute considerably to educational and digital career guidance systems. The tool will be helpful in these issues:

- Schools identify students with inadequate digital career readiness
- Career counsellors provide targeted career guidance interventions
- Policymakers integrate digital career literacy into school education curriculum
- Educational institutions strengthen career guidance infrastructure in the school setup
- Researchers examine behavioural patterns related to digital career exploration

The proposed layout will also support in implementation of digital technology-integrated career counselling and guidance activities that aligned with present-day educational reforms and digital learning policies.

11. CONCLUSION

At present digital resources and technologies are increasingly influential to the career exploration processes of secondary school students. It is very important that meaningful digital career engagement activities and behaviour requires more than technological access; it requires awareness, exploratory behaviour, confidence, and structured guidance support. This concept paper proposes a comprehensive and wide ranging framework for developing a “Digital Career Exploration and Usage Tool” intended for secondary and higher school students.

The proposed framework provides theoretical as well as practical foundations for future research, tool standardization, and educational interventions. It also aimed at strengthening digital career literacy and career readiness among adolescents. Future empirical studies may further validate the proposed dimensions and examine behavioural patterns across diverse educational contexts.

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