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Generative AI for University Students' Career Planning: An Educational Pathway

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Abstract

Generative artificial intelligence (AI) can produce detailed career advice, yet a persuasive plan offers limited educational value when students cannot explain its assumptions or test it through experience. The pathway developed here connects career exploration, learning guidance, and labor education in Chinese higher education. It draws on research concerning AI career support and self-regulated learning, together with international educational guidance and China's labor education framework. The pathway begins with students identifying a career question from their own experience. They then examine AI suggestions against verified occupational information, translate an unresolved question into a learning task, and complete practical work that produces evidence for revising their plans. Teachers intervene when information, student expectations, and practical feedback conflict. Assessment centers on the reasons for a choice, the quality of work evidence, and the justification for subsequent revision. An illustrative community service task shows how online guidance can inform practical activity and how experience can redirect further inquiry. The article contributes an instructional arrangement in which career planning develops through student-produced evidence. Its educational value requires evaluation through implementation, particularly regarding access to meaningful practice and the quality of student judgment.

Keywords

Career exploration; self-regulated learning; labor education; work experience; student agency

1. Introduction

A university student can obtain a complete career plan from a generative artificial intelligence (AI) chatbot before doing anything that would make the plan credible. The document may connect interests, courses, and occupations in fluent prose. The educational question is what the student has learned about those connections. A useful career planning assignment should require students to explain why an option deserves attention, identify what remains uncertain, and act in ways that ground the next decision.

Research supports this framing. A survey of Hong Kong university students identified perceived uses of generative AI for personalized learning alongside concerns about accuracy and privacy (Chan & Hu, 2023)—perceptions, not demonstrated learning gains. A broader review of AI across career stages found that university applications emphasized advice and matching, while career exploration received less attention (Bankins et al., 2024). Together, these sources point to a design question: how can accessible advice become an opportunity to investigate work and direct learning?

Chinese higher education provides a specific setting for addressing this question through labor education. Here, labor education concerns participation in productive and service activities, understanding the value of work, and developing practical responsibility. The national guidance connects university labor education with professional practice and occupational experience (Ministry of Education of the People's Republic of China, 2020). Career planning can therefore draw on tasks already embedded in courses, service projects, and supervised practice.

The pathway below links online AI guidance with precisely such activities, and its central device is plain: a career choice must be revised against work evidence the student has personally produced. What follows is a teaching design argued from published evidence—no classroom trial has been run, and no claim here depends on one.

2. Evidence Informing the Design

The term AI career support covers different technologies. A recent university-focused review includes conversational systems, predictive analytics, and recommendation platforms, with many chatbots using rule-based or hybrid designs (Sarmurzin et al., 2026). This distinction matters. Predicting a historical occupational category is one problem; helping a student question an emerging preference is another. Evidence from earlier systems can inform the purposes of guidance without establishing the effectiveness of current generative models.

Direct comparisons also require attention to the outcome being measured. Yang et al. (2026) compared AI counseling, human counseling, and a control condition. Their noninferiority analyses supported AI counseling on self-reported information deficits, whereas comparisons involving confidence and decision difficulties remained less conclusive. Self-reported deficits, a short follow-up, and simulated decisions restrict conclusions about subsequent careers. The results support separating information support from other counseling outcomes; they give no basis for treating more information as better career judgment.

Learning research explains what a teaching arrangement must add. A systematic review found uneven coverage of self-regulated learning processes by educational chatbots and mixed results across settings (Guan et al., 2025). Goal setting and reflection therefore need explicit places in an assignment: students should identify what they intend to learn, choose an activity capable of revealing it, and examine the resulting evidence. Lan and Zhou's (2025) distinction between learner-directed and AI-directed regulation sharpens the point—the student must keep responsibility for selecting goals and deciding how feedback changes them.

Read together, these studies describe an odd division of labor: systems deliver information, counselors deliver reassurance, and the student's own judgment is nobody's assignment. The pathway below gives that judgment an address—practical work. Bankins et al. (2024) identify room for greater attention to exploration, and Yang et al. (2026) discuss sequencing AI and human support; the design here asks teachers to intervene when problems surface during learning rather than front-loading guidance. The organizing question is which new evidence would justify retaining, revising, or suspending a career preference, and AI suggestions, teacher advice, and work experience are all tested against it.

3. From Career Questions to Practical Evidence

3.1 Establishing a Question Worth Investigating

The assignment begins before the first prompt. Students write a brief account of a course task, service activity, or other experience that shaped their interest in a kind of work. They identify what they enjoyed, what was difficult, and what remains uncertain in their interpretation. A preference for explaining ideas, for example, may reflect satisfaction with preparing materials, fielding questions, or organizing a group—different learning needs hiding under one occupational label.

Students bring that uncertainty to an AI conversation. A productive prompt requests alternative interpretations and asks what evidence would distinguish them. The teacher supplies a small collection of current occupational descriptions, relevant course information, and available practice opportunities. Students check consequential statements against these sources, recording the source and date. An unsupported recommendation becomes a further question. The record fixes what the student believed before seeing a generated explanation.

3.2 Translating Suggestions into Learning Tasks

Career options become educationally useful when they imply something a student can attempt. For each option retained, the student identifies a task, the knowledge or skill it requires, an observable product, and someone qualified to comment on it. AI can help compare possible tasks, explain unfamiliar terminology, or suggest a preparation sequence. The student chooses a task addressing the original uncertainty that fits the resources at hand.

Take an illustrative assignment: a university's community digital literacy service. A student interested in educational communication could prepare and deliver a short explanation of a digital service to consenting adult participants under supervision. Before delivery, the student would study the service, draft instructions, and rehearse likely questions. AI could suggest alternative explanations or play the role of a confused learner during preparation. The supervisor would check technical accuracy and suitability before any materials reached participants.

Beforehand, student and supervisor agree on a simple standard: a participant should locate the relevant function, understand the sequence, and know where to seek help. The supervisor's comments refer to these features of the product and its use—a basis for feedback the student can inspect and contest, not a general impression of personal suitability.

The task connects career exploration with work that matters beyond producing a career document. Preparing an explanation, fielding actual questions, and revising instructions expose what an occupational summary leaves abstract. The activity reflects the emphasis on professional and service practice in China's labor education guidance (Ministry of Education of the People's Republic of China, 2020). The same logic transfers to other supervised tasks, provided students perform identifiable work and receive relevant feedback.

3.3 Using Experience to Revise the Plan

The practical activity produces a record for discussion: an initial work product, observations of difficulties, feedback from the supervisor, and a revised product. Students select the evidence relevant to their career question; in the service example, the gap between an explanation that felt clear in rehearsal and one that participants could actually follow says more than a generic "communicates well."

Students then return to their initial interpretation. They explain which observations support it, which challenge it, and what further learning would resolve the remaining uncertainty. AI may help formulate alternative explanations of a difficulty. A teacher examines whether those explanations fit the work evidence and whether the proposed response is feasible. This use of dialogue follows UNESCO's emphasis on human agency and purposeful educational interaction (Miao & Holmes, 2023).

A difficulty also needs interpretation. Unfamiliarity with the digital service may explain hesitant delivery; noisy surroundings may explain a missed question. These alternatives deserve examination before an uncomfortable experience becomes a reason to abandon the field. A revised preparation task tests whether the difficulty persists when one relevant condition changes. Competent performance, conversely, does not require continued interest: distinguishing what students can do from what they want to pursue protects the assignment's exploratory purpose.

The revised plan records a choice and its reasoning. A student might retain an interest in educational communication while prioritizing clearer explanations of technical processes. Another might discover a stronger interest in designing materials than in delivering instruction. These are possible responses to the assignment, not reported participant outcomes. The educational achievement lies in connecting a decision to observed work and specifying a next step that could change the decision again.

4. Teaching, Assessment, and Implementation

Teacher involvement follows the evidence students encounter. Early intervention is needed when a task does not address the stated question or relies on inaccurate occupational information. During practice, the supervisor ensures the activity is appropriate and comments on the actual work; afterward, the course teacher examines how feedback relates to the revised plan. Where these roles fall to different people, a shared assignment brief states the expected work and the question each person is helping the student investigate.

When feedback conflicts, the student first identifies what each observer actually assessed—clear written instructions and responsive live explanation may earn different judgments—they are different parts of the work. The course

teacher helps settle disagreements about criteria and records whatever the available evidence cannot. Students name the source of each judgment, distinguish observation from interpretation, and explain which part of their next task answers which piece of feedback. Students without community placements can use a supervised campus service with comparable task, audience, and revision opportunity; an extra online exercise would leave the practical evidence requirement unmet.

Assessment focuses on the student's judgment. The initial record should distinguish experience from assumption. The task proposal should explain how the activity could reveal something relevant. The final submission should identify concrete evidence, consider a plausible competing interpretation, and justify a subsequent learning decision. A brief discussion of the work product allows the teacher to examine these links. A student who changes direction for well-supported reasons can meet the assignment's aims as successfully as one who confirms an initial preference.

The online learning platform holds the assignment brief, verified resources, successive work products, and teacher feedback, and students need access to these materials throughout the activity. Universities rarely run one tidy system—the career office, the course platform, and the practice base usually keep separate records—so the design asks for assembly around a task, not a merged database. Nor does it require every conversation to be retained. No teacher has the hours to read a semester of chatbot logs, and the logs would show effort rather than judgment; students instead submit the excerpts that materially influenced a decision and explain how they checked them.

Implementation requires a suitable AI tool, a feasible practice task, and feedback from someone familiar with that task. The binding constraint is usually the third: tools are cheap, supervisors' hours are not; a course should build on existing supervised activities rather than inventing new placements. A compliance risk is worth naming plainly—a written record can be completed as ceremonial box-ticking. The design's defense is that every record must attach to a work product someone else has actually used or questioned. Students who cannot use the selected tool need an equivalent route through the same resources and teacher-supported discussion. Actual work may involve other people; keep identifying details out of external prompts and use fictional material in rehearsal. These arrangements put learner control into the conditions of participation, consistent with the human-centered educational orientation discussed by Lan and Zhou (2025), Miao and Holmes (2023).

The design's main limitation is plain: its instructional logic has not been tested through implementation. Future evaluation should examine whether students can explain and revise choices using work evidence, including cases in which confidence falls as students recognize a difficulty. Unequal access to meaningful tasks and variation in supervisor feedback could influence this outcome. Both conditions matter when interpreting any later comparison of career plans or satisfaction.

5. Conclusion

Generative AI can contribute to career planning by making explanations and alternative questions available during learning. The pathway above gives those contributions a practical destination: work that students undertake, examine, and use to revise a choice. Advice, action, judgment—that sequence, not the fluency of any generated plan, is the educational point. Courses adopting this approach would ask students to demonstrate how a career preference has become better informed and what they intend to learn next, which offers a concrete basis for connecting online guidance with the purposes of university labor education.

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