A STAGED RESEARCH MODULE AS A MANAGEMENT TOOL: LINKING COURSE PAPERS AND GRADUATION THESES IN UNDERGRADUATE EDUCATION

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Abstract. Undergraduates often meet research as a series of unconnected assignments. This paper describes a 25-topic practical module that runs through the third and fourth years of a bachelor programme and links the course paper to the graduation thesis through shared planning tools. Results from three Uzbek higher education institutions show similar gains in research competence at each site, while control groups did not change.

Keywords: *undergraduate research, curriculum design, research competence, course paper, graduation thesis, educational management.*

Introduction

Studies of the research–teaching nexus agree that research experience should be built into the whole programme rather than left to a final thesis (Healey & Jenkins, 2009; Fung, 2017). Guidance on undergraduate research also stresses scaffolded, sequenced experiences that grow in autonomy over time (Willison & O’Regan, 2007; Hensel, 2012). The principle of constructive alignment adds that the activities students perform and the way they are assessed should serve the same intended outcomes (Biggs, 1996).

In Uzbek universities the essay, the course paper and the graduation thesis are usually set and graded separately, and the baseline analysis in our study found that mentoring was episodic and students’ progress was not tracked between these tasks. Earlier work by the author reviewed current trends and problems in developing students’ research activity in higher education (Khoshimov, 2024). This paper reports how a staged practical module intended to connect these tasks was designed and what results it produced at three institutions.

Module design and methods

The module “Technology for developing students’ research competence” contains 25 practical topics. Ten core topics in the third year cover the foundations of research competence, the stages of research methodology, research questions and hypotheses, working with international sources and academic integrity, qualitative and quantitative methods, data collection and preliminary analysis, academic writing (IMRaD structure and APA referencing), research planning and time management, team research and presenting results. Fifteen advanced topics in the fourth year cover research design, the methodology of a pedagogical experiment, diagnostics and monitoring, statistics with Excel and SPSS, interpretation of results, formulating scientific novelty, preparing papers for international journals, research ethics and the graduation thesis itself.

Three management tools tie the two years together. A Gantt chart fixes deadlines for each stage of the student’s project, a project passport assigns roles in group research, and a common assessment sheet is used in conference simulations where students present interim results. The module ran in experimental groups at Namangan State University, Bukhara State University and Samarkand State Pedagogical Institute in 2023–2026 (266 students); control groups (260 students) followed the regular programme. Research competence was measured at the start and end with a 16-item instrument covering motivational, gnoseological, practical-operational and reflective-evaluative components, and students were placed at high, medium or low level.

Results

Table 1 shows the share of students at the high and low levels in each institution.

Table 1. Students at high and low levels of research competence, by institution, % (before → after)

Institution, group (n)	High level	Low level
NamSU, experimental (83)	21.7 → 44.6	39.8 → 14.5
NamSU, control (82)	20.7 → 19.5	45.1 → 45.1
BukhSU, experimental (87)	25.3 → 44.8	39.1 → 16.1
BukhSU, control (86)	24.4 → 23.3	39.5 → 38.4
SamSPI, experimental (96)	22.9 → 42.7	39.6 → 15.6
SamSPI, control (92)	20.7 → 20.7	46.7 → 45.7

In all three experimental groups the high-level share roughly doubled and reached 42.7–44.8%, while the low-level share fell to 14.5–16.1%. Control groups changed by no more than 1.2 percentage points. For the experimental sample as a whole, the mean score was 4.29 against 3.78 in the control sample ($t = 7.89$, $p < 0.001$).

Discussion

The close agreement between the three sites suggests that the gains depended on the design of the module rather than on the conditions of one university. Two features seem central. First, sequencing: third-year topics prepare the skills that fourth-year tasks then require, so the course paper becomes a rehearsal for the thesis rather than a separate exercise. Second, shared management tools give students, supervisors and departments the same view of deadlines and progress. The study has limits: groups were not randomly assigned, part of the measurement relied on self-assessment, and the effect of single module elements could not be separated.

Conclusion

A staged module with shared planning and assessment tools can turn separate undergraduate assignments into one managed research pathway. Departments that wish to adopt it can start by mapping existing course paper and thesis requirements onto a two-year sequence, introducing a common project timeline, and holding at least one presentation of interim results each semester.

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