

**Scholarship of Assessment Grant:
The JINS Effect
Completion Report**

**Dr. Adam Brooke Davis,
Interim Director of Interdisciplinary Studies
October 25, 2005**

Background:

JINS courses are a signature feature of Truman's Liberal Studies Program (LSP). Phased-in beginning in Fall 2001, the courses replaced the old Composition II, and indeed, were an organic development of that course. Comp II was a standard upper-division writing-requirement. Over time, numerous instructors of that course (exclusively English faculty) developed specialized topics as ways of exploring their own scholarly interests and of stimulating student engagement through extended and revised writing. Areas of focus included "Folklore," "Portrayals of Women," "Race, Class and Gender," and many others. Readers of the Liberal Studies Portfolios began to be aware of a high degree of sophisticated interdisciplinary thought, and also of self-reports of student satisfaction, emerging from these courses. At the same time, the investigator (then also an instructor in Comp II) began using the "goal sheets" students generated in the campus-wide writing-assessment then in place (the Sophomore Writing Experience, or *SWE*) to encourage students to develop a conception of themselves as writers and thinkers beyond the requirements of a single composition course. A subcommittee of the Liberal Arts and Sciences Task Force charged with developing a new General Education program drafted a plan for creating and providing a new type of interdisciplinary, writing-enhanced seminar that would be staffed by faculty from across campus and would serve as a capstone to the new LSP. The slot in students' general education curricula previously occupied by Comp II seemed a reasonable locus for such a course. The VPAA office provided grants for course-development, guided by the then-Director of Interdisciplinary Studies, Dr. David Christiansen. By Fall 2003, the JINS program was fully implemented, and procedures had been established to make certain that sufficient seats would be available, in a reasonable variety of courses, taught by faculty from all academic divisions, for all students.

Introduction to the Project:

In the Spring semester '05, the Interim Director of Interdisciplinary Studies was awarded a Scholarship Assessment Grant in the amount of \$1000.00 to investigate whether taking a JINS course has measurable effects on students' ability to recognize interdisciplinarity. This effort was undertaken as part of the scheduled review of the Interconnecting Perspectives component of Truman's Liberal Studies Program, mandated by Undergraduate Council.

In the procedure initially envisioned, the Interim Director of Interdisciplinary Studies identified Spring 2005 as a "snapshot semester," and solicited student papers from each faculty member teaching JINS that term: one paper the instructor rated strong in interdisciplinarity, and a second the instructor rated weak. The investigator stripped all

identifying information from the paired papers, and imposed a common visual format. It was proposed that students would be recruited to assess the papers for interdisciplinarity: a group of students who had just completed a JINS course (“pool 1”), and a group of students just beginning a JINS course (“pool 2”). It was expected that there should be a measurable difference between the two groups, and that students who had completed a JINS course should more readily recognize interdisciplinarity, and evaluate it in ways that tracked the judgments of faculty more closely than would students just beginning their JINS course.

In discussions with faculty involved in institutional research, it was decided that the project fell within normal assessment, and so did not require approval by the Institutional Review Board. However, the investigator followed all normal IRB procedures: confidentiality of respondents was assured, participants were informed of the anticipated risks (lowest), and told as well that they could cease participating at any time without penalty (except that they would not receive payment); original responses will be destroyed upon completion of the project.

Modifications to Procedure:

The Scholarship of Assessment Grants Committee, while approving the proposal, recommended certain changes, chief among which, that the investigator, rather than developing new and untested materials for comparing faculty and student evaluations of interdisciplinarity, use the papers which had been rated consistently, and over a long period, by faculty reading the Liberal Arts and Sciences Portfolio prompt for the “Interdisciplinary Thinking” rubric. The suggestion was accepted, and the investigator received approval for a plan to recruit a total of forty students for Pool 1 and Pool 2 (described above) to be assembled on a specified day to read and evaluate five sample papers for interdisciplinarity. Each student was to be paid \$25.00 for approximately two hours of participation.

Execution:

The investigator requested from Truman’s Information Technology Services two separate lists of campus emails for the appropriate pools, and accepted the first twenty respondents for each. The investigator also prepared a brief questionnaire for each group, inquiring into attitudes towards interdisciplinarity and towards the particular JINS course in which the student had experience. Finally, the investigator prepared a list of problems and questions, drawn from a variety of disciplines, which both pools would be asked to rate for the degree of interdisciplinarity required to address them.

On the day of the assessment, errors in copying of the sample-packets emerged which delayed the procedure somewhat, but which should not affect comparability of responses between pools, since they were experienced identically by both pools. Additionally, errors in production invalidated a small number of questions, which are therefore not included in the analysis, but which the investigator intends to address in a followup survey during Fall Semester ’05.

In the event, three respondents from each pool failed to appear, yielding a sample of 2.7% of the population studied.

Results and Interpretation:

The central hypothesis, that there is a measurable effect on the evaluation of interdisciplinarity attributable to students' having completed a JINS course, is not supported by the data. Both populations, Pool 1 (students who had completed a JINS course) and Pool 2 (students who were just beginning a JINS course) ranked the samples identically, and very close to the way the samples had been ranked by faculty.

Interestingly, both pools inverted the top of the range, relative to the established evaluations of faculty reading the LAS portfolios. It is a matter of little significance to the present study, but the investigator speculates that the students were responding to certain sophisticated elements in the composition and prose style of one particular sample, which are in some ways superior to the same features in another sample which is nonetheless stronger on the specific feature of interdisciplinarity.

The single finding on the key question which may be of significance is this: Pool 2 (those who have not completed a JINS course) were somewhat more likely to perceive and reward interdisciplinarity than were students in Pool 1 (those who had completed a JINS course). Put another way, *students who have completed a JINS course tend to be more critical of claims for competence in interdisciplinarity than students who have not.* Especially at the low end of the range, Pool 2 tends to reward interdisciplinarity much more than Pool 1, even when (by established faculty assessment) no interdisciplinarity is present. This would suggest that there is in fact a "JINS effect," though it is not precisely what the investigator had originally expected to find. The investigator suggests that Truman students at a certain point in their studies intuitively recognize and reward interdisciplinarity as a component of sophisticated thinking which they are inclined to reward, but that a JINS course has some tendency to sensitize students to levels of sophistication.

As a point of critique, it should be noted that the faculty rating the "interdisciplinary thinking" rubric for the Liberal Arts and Sciences Portfolio project receive more extensive training in recognizing interdisciplinarity than did the subjects in this study, and nonetheless find the task challenging. It is therefore not surprising, in the view of one reviewer of this report, that no significant differences emerged in the student study. It is possible that a larger sample, or a group of students with more extended training, might detect yield other results (though the latter procedure would render them less representative of the populations sampled).

Additional Inquiries and Findings:

More interesting, perhaps, are results from additional questions not included in the original grant proposal.

1) Students in both groups were asked whether, given the choice between a traditional upper-division composition course (assuming such a course to be legally mandated) and

JINS, both pools overwhelmingly favored the JINS option – 29:5; differences between the respondent pools on this question were not statistically significant.

2) **Students in both groups were asked to rate their own ability to do interdisciplinary work. Pool 1 rated themselves significantly lower than did pool 2: 1.75:2 on a four-value scale. This finding is in keeping with the interpretation, above, that the JINS effect consists in developing a critical stance towards claims of interdisciplinary competence.** No one in either group rated herself/himself as “very inadequate” in interdisciplinary work.

3) Students were asked to offer free responses to two attitudinal questions, grammatically adapted to the relevant pools:

What did/do you like most about your JINS class?

What did/do you like least about your JINS class?

Can you identify something you gained/expect to gain from your JINS class?

Responses were overwhelmingly affirming of the JINS program. Of 34 responses, 4 were negative, all from Pool 1 (those who had completed a JINS course), and all focused on instructor or methods. A single respondent questioned the appropriateness or usefulness of interdisciplinarity in the college curriculum (the response indicated a strong conviction that students should not be required to do anything beyond essential skills not immediately relevant to the major), and the same respondent felt that her/his JINS course was lacking in intellectual rigor. There were, additionally, numerous complaints about the workload in JINS courses, particularly the amount of writing required, and a few concerning the amount of reading.

The majority (positive) responses mentioned “leaving the [intellectual] comfort zone,” exploring areas of inquiry the student might not otherwise have encountered, or topics, materials, questions and methods unlikely to be addressed in the major as essential benefits of JINS.

4) students in Pool 1 (those who had completed JINS) were asked to evaluate their JINS course on a four-value Likert-scale for whether the UGC-mandated outcome-statements were (1) *very true* (2) *somewhat true* (3) *somewhat untrue* (4) *very untrue* as descriptions of their own JINS courses. The 4-value scale was used on advice of an assessment specialist, who predicted there would be a strong tendency to select the neutral value if available, and that the 4-value scale required students to commit to a positive or negative evaluation, and to scale that response.

The data showed several likely “mucker” responses – respondents who checked the same value for each question (and in each case, the “mucker option” was 3 or 4, with a net effect of dragging the evaluation downward, and best interpreted as a generally negative attitude towards the JINS experience – or towards the assessment – undifferentiated according to particular questions). Even including these responses, all outcomes were rated on the “true” end of the scale. **There was especially sharp affirmation that**

students found questions of their home or major disciplines were illuminated through the lens of interdisciplinary study, a key finding that affirms the relation of interdisciplinarity to disciplinary study at a liberal arts institution.

The JINS courses were evaluated as weakest with regard to systematically demonstrating the various ways in which a topic might be understood by means of the methodologies of different disciplines, and how knowledge from different disciplines interacts (though only relatively “weak;” in absolute terms, respondents felt the courses accomplished these objectives). These particular ratings strike the investigator as affirming the integrity of the assessment, since they are generally regarded in the literature of interdisciplinary inquiry as among the most sophisticated of the common learning objectives, and among the most difficult to structure in an obvious way.

Students in Pool 1 were also asked to rate their JINS courses for the degree to which they were made conscious of discipline-based separation (contrast, distinction) of content, purposes, methods, and modes of communication. Responses were again overwhelmingly affirmative, all means above the neutral point (even with suspected “mucker” responses included).

Rating Problems for Interdisciplinarity

Perhaps the most interesting finding of the assessment came in the questionnaire which presented students with a series of 22 questions and problems drawn from numerous disciplines, where students were asked to say whether a given problem

- (1) is best approached from a single disciplinary perspective*
- (2) will require minimal input from a second discipline*
- (3) requires considerable input from multiple disciplines*
- (x) don't know*

The two pools showed interesting differences on this exercise, not included in the original project plan, but perhaps yielding the most significant results. Respondents who had not yet completed a JINS course (Pool 2) were three times as likely as those who had completed a JINS course to respond “don't know.” On 15 of the 22 questions, Pool 1 recognized a greater need for an interdisciplinary approach than did Pool 2; the overall rating for interdisciplinarity required was higher for Pool 1 than for Pool 2 as well. **These results suggest that there is a strong JINS effect, consisting in the readiness to recognize the need for interdisciplinary approaches.**

It should be noted that the problems were not normed for level of interdisciplinarity required, so that no claims are advanced for the accuracy or appropriateness of the students' judgments (though on an intuitive level, the investigator affirms that Pool 1 responses roughly track his own estimations, better than do the evaluations of Pool 2). Rather, the differences between the two pools are taken as an indication of readiness to recognize the need for interdisciplinary approaches, quite apart from judgments of whether that recognition would be affirmed by professional practitioners of the disciplines and interdisciplines involved.

Methodological Cautions:

Certainly significant differences are documented between the two pools. The investigator assumes that the results will hold for the populations of which the two pools are samples – students who have completed a JINS course and students who have not completed a JINS course. However, a critique of sampling procedures is always in order. No differences between the two samples have been identified beyond those which are desired; that is, adequate controls are in place. There is a minimal difference in time-in-program; on average, students in Pool 1 may be expected to be advanced one semester further in Truman coursework than Pool 2, but it does not seem likely that dramatic differences in intellectual maturity are likely to emerge in these three months, other than those attributable to the target differential. The more important question is whether these pools can be held to be representative of the populations from which they are drawn. Certainly the students are distinguished by willingness to participate in assessment; willingness and ability to take part in such assessment from 10 am to 12n on a Saturday, and ability to be motivated by the offer of \$25.00. The investigator does not believe these to be significant differentia, but intends to inquire further with a census-survey of students completing their JINS courses in May '06 and students registered at that same time for JINS courses beginning in August '06, said survey to be administered through Truman survey software (<https://secure.truman.edu/survey-s/login.asp?surveyID=>).

Addendum:

The investigator, as Interim Director of Interdisciplinary Studies, has primary responsibility for Writing Enhanced coursework at Truman, of which JINS is a major component. In a separate inquiry, also at the direction of Undergraduate Council in their scheduled assessment of the Liberal Studies Program, the investigator performed surveys of all faculty and students in courses designated WE during the snapshot semester, Spring '05. The findings, contained in a report submitted in draft to UGC in October '05, indicate overwhelming affirmation by both faculty and students that WE coursework at Truman meets all mandated outcomes. An excerpt from the draft report:

...in the Spring semester 2005, the Interim Director of Interdisciplinary Studies prepared a questionnaire based on the outcomes defined by Undergraduate Council for Writing Enhanced courses at Truman (<http://www.truman.edu/pages/263.asp#Writing-Enhanced%20Courses>). Separate but identical surveys were sent to all faculty teaching, and all students enrolled in, WE courses during that snapshot semester. There were 105 faculty responses, and 1309 student responses. It is not possible to sort out the exact response rate, as faculty may be teaching, and students taking, more than one WE course in a given semester, but the rate approaches a census-response.

In each case, respondents were asked to respond on a Likert-scale (“strongly agree/ somewhat agree/ somewhat disagree/ strongly disagree”) whether a given outcome (e.g., “In this class, students were asked to engage in deep revision, closely examining and further developing the reasoning in the writing) was true of the course. For all outcomes, students and faculty responding with “strongly agree” or “somewhat agree” accounted

for more than 50% of responses. The average for students was 87.92%, and for faculty 96.88%; interestingly, both groups agree on the lowest area: "in this course, students must engage in deep revision, closely examining and further developing their reasoning in writing." The only significant difference between the populations observed was that the faculty were more strongly affirming than were students.

If we may take Spring '05 as typical, the survey shows rather convincingly that students and faculty find that WE coursework at Truman is meeting the outcomes specified.

Summary and Conclusions:

The initial hypothesis, that having completed a JINS course will correlate with a difference in the accuracy with which students replicate the ratings of trained faculty for interdisciplinarity in student papers, is not sustained by the data.

However, the data suggest that there is in fact a JINS effect: that completion of a JINS course correlates with readiness to recognize the need for interdisciplinary approaches to intellectual questions and problems, as well as with an increasing disposition to be critical of what is forwarded as successful interdisciplinary inquiry, and even an increase in modesty concerning one's own ability to do interdisciplinary work. Students who have completed a JINS course affirm that it enhances their ability to address problems and questions in their major fields of study.

Students in the respondent pools are overwhelmingly favorable to JINS, at least as an alternative to a traditional upper-division composition course, and the things they value in the JINS experience are consistent with what faculty governance envisioned as objectives and outcomes. Finally, it can be said with confidence that all populations involved affirm overwhelmingly that Writing Enhanced coursework at Truman is meeting the legislated outcomes.

Implications for Policy and Educational Expectations:

The literature of interdisciplinary education and its assessment regularly assumes that the key objective of such enterprises is to encourage mastery of the methodologies of multiple disciplines, or at least the ability to marshal the intellectual resources necessary for particular, intrinsically interdisciplinary enterprises (biochemistry, environmental or gender studies, ethnic area studies, medieval studies). This is perhaps an artifact of the focus of the literature (still in its infancy) on degree programs, more than on interdisciplinarity in the context of general education. The findings of the current assessment, if confirmed by further inquiries (particularly the proposed survey) suggest that a different set of expectations is appropriate to an initial course in interdisciplinary inquiry, taken as the capstone of the general education program and a gateway to disciplinary study in the major, at a liberal arts university. The investigator proposes, as a point to be discussed among faculty and in governance bodies, that expectations of JINS should be revised in such a way as to emphasize what it does, and does well, and to acknowledge that it is in fact a worthy objective to sensitize students to the need for, and to cultivate their readiness to attempt, interdisciplinary inquiry.