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Using JiTT to foster active learning in a humanities course

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Just In Time Teaching (JiTT) has given me the tool to harness the power of active learning in a traditional academic course, *The History of Twentieth Century Photography*, that I teach at Indiana University. This chapter describes my use of JiTT as a key component in this writing-intensive course. It offers quantitative and qualitative data on students' reports of how JiTT increased their learning. It argues that JiTT, which has been used primarily in the natural and social sciences, is an effective means for motivating and engaging students in the humanities. And it offers a model for adapting JiTT to humanities courses, particularly as a method of fostering critical thinking in the liberal arts tradition.

Taught in the large-lecture format, the course typically enrolls about 150 students, primarily from the School of Fine Arts, which requires it of majors in the Bachelor and Master of Fine Arts photography programs, and from the School of Journalism, which credits it as a core research requirement. The course surveys photography as a medium of art and communication. It examines such art genres as portraiture, landscape and the nude, and considers such communication categories as war photography, the social documentary tradition, the magazine picture story and fashion photography. It traces movements, explores the effects of technology and situates more than 125 photographers and their work within biographical, historical and social contexts. It also considers how postmodern theory has changed our understanding of the photograph, the photographic act and how photography functions in society.

I use JiTT to foster critical thinking, defined in the syllabus as: (1) "learning to read critically—to identify an author's thesis and arguments, and then evaluate whether those arguments convincingly support her or his conclusions" and (2) practicing "several mental operations that are crucial to studying visual art and practicing

art history. They include observing, describing, comparing and contrasting, summarizing, classifying, analyzing, synthesizing, interpreting, sourcing, periodizing, contextualizing, and formulating and testing a thesis.”

Donald points out that while some critical thinking skills may be generic, students must also master discipline-specific modes of thinking. These mental operations articulate critical thinking within my discipline. They go beyond the discipline’s domain content to give students a methodology for practicing the history of photography. Giving them the methodological tools to construct their own histories of photography motivates them to learn the domain knowledge at a deeper level. As described below, I craft JiTT questions to foster these mental operations.

Beyond the meta objective of critical thinking, the syllabus lists five other objectives: (1) acquiring a broad knowledge of twentieth century photography through readings, discussions and lectures, (2) acquiring a deep knowledge of a specific photographer, movement or issue through a research project, (3) learning to articulate intellectual, aesthetic and emotional responses to photographs, (4) developing the interest and tools to continue studying the history of photography after the course ends, and (5) acquiring an historical consciousness.

To accomplish these objectives, I have designed a writing-intensive course in which JiTT plays a central role. I assign students to write: (1) frequent JiTT assignments, which typically require two essays based on oppositional readings, (2) a book response, (3) a research paper, and (4) essay questions on midterm and final exams. There are no true-false or multiple choice assessment measures on the exams. The writing assignments comprise 86.5 percent of the course grade; the remaining 13.5 percent is based on short-answer questions on the exams.

Implementing JiTT in a humanities course

Instead of JiTT, I call my questions TARs, an acronym for Thinking About the Readings. In spring 2008, I planned to assign 20 TARs in a semester with 29 class sessions. I did not schedule them during the first or last weeks of the semester, on days when papers or exams were due, or immediately before and after spring break. Unanticipated conflicts cut the number to 17, which I prorated to 20 percent.

Instructions on the first assignment begin by reminding students of the link to critical thinking:

As explained in the syllabus, the primary objective for the TARs assignments is to help you become better critical thinkers. Writing is a way of making our thinking concrete and tangible. Often the process of writing generates new thought. The primary expectation for your TARs assignments flows directly from this objective. You must demonstrate that you have thought deeply about the readings — that you have identified and understood the authors' primary ideas and that you have generated your own ideas in response to theirs.

Duffy and Jonassen (1992) advocate that students should actively construct knowledge. Pointing out there are no right or wrong answers, I explain the TARs questions are “about constructing your own history of twentieth century photography. The idea is ... to formulate your own position and justify it in writing.”

Some of the questions, such as identifying theses and evaluating arguments, are iterative, allowing students to practice a mental operation repeatedly. Others are graduated, demanding higher skill levels as the semester progresses. All questions are pitched above the level of retention in Bloom's (1956) taxonomy of cognitive objectives. Early in the semester comprehension questions predominate. Using Bloom's measure of comprehension, I ask students to summarize the readings in their own words. This question from the first assignment of the semester is an example:

Pennell and Stieglitz take different positions on the major question for Pictorialism: Is photography an art? Construct an argument between the two men, summarizing their points pro and con on this issue. Also, identify the assumptions behind their definition of “art.” Are they talking about the same thing? Or, are their differences primarily semantic?

Students must understand the articles deeply enough to reformulate them in their own words. The question also functions at the synthesis level, because they must interweave two sets of ideas into a single debate.

At the application level, I ask students to transfer ideas from a text to analyze a photograph they have not seen before. One such prompt states: “Hall identifies six elements and ten themes in the paradigm of French humanist photography. Use as many of those elements and themes as applicable to discuss this photograph.”

At the analysis level, I ask whether a writer marshals an argument that convincingly supports her thesis, and I frequently ask students to identify and critique writers' hidden assumptions or unconscious blind spots. One TARs prompt reads:

“Hagiography” literally means writing about the saints. When it's applied to historians and biographers it takes on a pejorative connotation. It implies they are unduly praising, heroicizing,

idolizing or canonizing their subjects. Does Jonathan Green engage in hagiography of Robert Frank in this reading? Or, is his account of Frank justified? Say yes or no and, most importantly, defend your answer: Why or why not?

Many of the TARs assignments relate directly to the mental operations. For example, I show students how they can extrapolate questions about how convincing an author argues her thesis to formulating and testing a thesis for their own research paper. While the first of the two TARs questions always focuses on the readings, I sometimes use photographs as prompts for the second question. They let me explore other mental operations. Early in the semester, I ask students to observe a photograph, describe its contents, analyze its formal values, and interpret, or construct their own meanings, for it. Soon, we graduate to comparing and contrasting two photographs. At the next level, I show them a dozen images by a photographer we have not discussed, ask them to write a general summary of the entire group and then analyze a particular image that exemplifies the group. Later in the semester, when we have established a base of domain knowledge, I ask them to classify photographs according to their style or movement and to periodize others within a time frame. Always, of course, I require them to explain and justify their responses. Students incorporate the seeing, thinking, and writing fluency they acquire from these TARs assignments into their research papers.

Most TARs assignments are based on oppositional readings in which authors take contradictory points of view. For example, the debate surrounding a famous war photograph—Robert Capa’s 1936 picture from the Spanish Civil War, entitled “Falling Soldier”—has roiled photojournalism for three decades. Based on interviews with journalists, Phillip Knightley, in *The First Casualty*, accuses Capa of staging the photograph, which purports to show a Spanish loyalist soldier at the instant he is fatally struck by a bullet. Capa’s biographer Richard Whelan defends the photograph’s veracity, identifying the slain soldier, marshaling evidence about the battle, and interviewing a forensic detective about the falling body.

The first prompt functions at the comprehension level: “Summarize in your own words Knightley’s argument that Capa staged this photograph. Summarize in your own words Whelan’s argument that the photograph is authentic.” The next questions — “Whose argument do you find more convincing? Why?” — function at Bloom’s level of evaluation. The second question pushes students to examine the very premise of the debate—that staging is somehow wrong: “In your opinion, does it matter whether or not this photograph

was staged? Why or why not? This is a chance to explore and articulate your ideas about the truth value of photography.” This question moves students beyond the readings, asking them to explore their deepest beliefs about truth and photography. By forcing them to commit to a position in a framework of uncertainty, it connects to Perry’s (1970) research on the intellectual and ethical development of college students.

Most of the art photographers say staging is a non-issue. Typical is this response by a senior BFA student, who argues that all photographers, including photojournalists, have a right to use any means necessary to convey their intended message:

I do not believe that it matters a great deal whether or not the photo was staged. As a war photographer, Capa was supposed to give a visual documentation of what war was like. The Falling Soldier photo does give its audience a feel for the tragedy of war. If Capa had to set up the photo in order to make his point more effective, then the photo still serves its purpose. A staged but emotionally impacting image is more effective than a spontaneous “true” photo that is less visually arresting. ... In all photographs, the person behind the camera makes choices to varying degrees. Even in documentary photography, the photographer should be reserved the right to edit his or her photo in order to convey their intended message.

In contrast, most of the photojournalists argue that staging is not ethically acceptable. One, who is an editor on the student newspaper, based his rejection on ethics, integrity and credibility:

Truth is subjective; absolute truth may be impossible to achieve. But, in my mind, a photographer should come as close to the truth as possible in his or her images. In some ways, it doesn’t matter that this photograph was staged because one could argue that if this one was staged, something that resembled this happened somewhere, and in that sense, caused some sort of truth. One could also argue that if the image were staged, this did not happen therefore it is not true, and is unethical. I tend to agree with the latter. I take the ethical standards in journalism, specifically in photography, for exactly what they are. The only thing we have as journalists is our integrity. If we sacrifice that, we are sacrificing our moral obligation to our profession and our public. If a photographer portrays something that never happened as a true event, there goes your credibility.

Oppositional readings are directly linked to the mental operation of comparing and contrasting. A staple in art historical pedagogy is the essay question asking students to compare and contrast two works of art. The premise is that they will see more deeply by examining two approaches to the same motif. Oppositional readings expand the compare and contrast approach to texts, prompting students to think more deeply.

This deeper critical thinking could not result from reading a textbook. Full of bloodless, homogenized prose,

textbooks lack the strong points of view against which students can pit their own thinking. Well chosen, oppositional readings including artists' statements, criticism, biographies, Web-based essays, and peer-reviewed journal articles and book chapters offer authentic authorial voices that engage students in thinking through competing perspectives on a issue. Such readings offer two other values directly connected to the course's pinnacle assignment, the research paper: (1) They require students to sample and analyze the wide range of sources available for their research projects. When we discuss the readings, I emphasize how peer-reviewed research is superior to other of types of readings, but it can have problems also. So we discuss how they must critically evaluate all sources. (2) They offer models of professional writing that students can use to improve their own writing.

Because they count for 20 percent of the semester grade, the TARs assignments have a modest summative role in assessing student learning, but primarily they perform two formative functions: (1) Students use the instructors' feedback to gage how well they are meeting course objectives. (2) Critical reading, critical thinking, and frequent writing prepare them to meet expectations on the essay questions on exams and on their research papers.

Feedback is more extensive—and more labor intensive for the instructors—at the beginning of the semester. On the first four assignments my two grading assistants and I write positive feedback and constructive criticism to all students. We average three to four hours per assignment in grading about 40–45 students each. Here's a portion of the feedback for a student who scored a B on the first TARs assignment on the Pennell-Stieglitz readings:

Generally, a good start on your first TARs, but there's room for improvement on future ones. We want you to demonstrate that you've read the articles carefully, thought about them analytically and formulated your own response. You show that only to a degree. You characterize Pennell's argument as: "He felt that during the pictorialist time photography was still too new to be true art. He thought it needed more recognition from people other than its main supporters." Okay, but that's only one small dimension. Pennell argued photography was too easy, did not require any apprenticeship, was mechanical, was practiced by amateurs, did not require any handwork, etc. So, I encourage you to be more complete in your answers. You don't have to say everything possible, but push yourself to go beyond this. Be especially careful that you have identified the author's main point, or thesis. So, I would also encourage you to read the articles more critically.

By the third or fourth TARs assignment, most students understand the expectations and rise to meet them.

For them, our feedback shortens to a comment or two, intended to assure them we are reading their responses. For students who do not improve, we continue to give concrete suggestions on how they can read more critically and write more effectively. As the semester progresses, we lower the grades for students who do not show progress and for the small number who, after repeated warnings, do not write enough to answer the questions. At this stage, we average an hour to an hour and a half in grading each assignment.

One advantage of JiTT is that I can walk into class knowing how the class divides on an issue and provoke a lively discussion. While intense debates are expected in the small seminar format, JiTT makes them possible in large lecture courses. A debate along the lines of the written responses quoted above invariably occurs on the question of whether Capa staged the moment-of-death photograph and whether it matters. It is difficult to get students to discuss a subject they are hearing about for the first time in a lecture or even one they have read and marked with yellow highlighters. With JiTT, however, they have thought about a complex issue and articulated a position. Everyone has an idea to contribute. Because I have skimmed their responses before class, I know the parameters of their thinking, and before the debate tilts too far in one direction, I can call on someone from the opposing side. On the best days, the students talk directly to each other, and I can drop my role as moderator. As they articulate arguments for their own position and hear counter arguments from their peers, they engage in the student-centered learning that Barr and Tagg (1995) advocate in their call for “a new paradigm for undergraduate education.” Instead of seeing the issue as clear-cut, some students push their thinking to a more nuanced view. A few may actually change perspectives because of the debate. Most probably do not, but they have listened attentively to alternate points of view at a level that goes deeper and lasts longer than a mere lecture could achieve.

Students respond favorably to JiTT

I have collected data from the past three courses that indicate students respond favorably to the JiTT method. On quantitative and open-ended questions, and in focus groups, students report the TARs assignments contribute positively to their learning. Table 1 shows that large majorities say the TARs helped them process the readings at a deeper level, ranging from a low of 83.3 percent in 2006 to a high of 96.7 percent in 2004.

Positive responses about increased critical thinking skills, ranged from a low of 73.3 percent in 2006 to a high of 90.8 percent in 2004. Agreement that the learning was worth the work ranged from 61.1 percent in 2006 to 90.8 percent in 2008.

Table 1. Comparison of key questions over three semesters									
	2004			2006			2008		
	Yes	No	n	Yes	No	n	Yes	No	n
Did the TARS help you process the readings at a deeper level?	96.7	3.3	61	83.3	16.7	90	92.1	7.9	76
Did the TARS help you increase your critical thinking skills?	82	18	61	73.3	26.7	90	90.8	9.2	76
Did the learning you gained from the TARS make them worth the work they required?	75.4	24.6	60	65	35	90	90.8	9.2	76

Responding to open-ended prompts, many students linked TARs assignments to the course objective of critical thinking. Others comment on how JiTT increased their motivation and engagement:

- “The TARs made me think. Sometimes when I did not want to. They also made me write, which in turn made me think. It was very difficult, but very good for me.”
- “I thought the TARs helped to force me not to fall behind.”
- “Glad they were assigned — otherwise i probably wouldn’t do the reading to my fullest capabilities.”
- “I think the TARs assignments are the most important assignments of the course. They stimulated my thinking and kept me up to date with the readings.”

Regarding engagement, which I define as time on task distributed throughout the semester, most students attributed the greater time spent to the TARs assignments. One wrote, “This class forces you to put a lot of work in—other classes expect you to but do not actually require it. I learned a lot, but stressed a lot as well.” Asked, “What contributed most to your learning in this course,” 19 of the 64 students who answered this question mentioned TARs in their written responses. Asked, “What did you like best about the course,” six of 72 students mentioned TARs. Asked, “What did you dislike most about the course,” 17 of 74 students cited TARs.

At the end of the 2006 course a campus instructional staff member conducted a focus group with 10 students whose identities were anonymous. Asked to compare the amount of time they spent on this course with other

courses, one graduate student said, “I probably coasted through college and didn’t spend a lot of time reading assigned readings or studying outside of class. ... I would say, on average, compared with my undergrad career I really spent two to three times as much time reading, writing or refining my writing.”

Another student said, “Not only did you have to do the readings but you had to think about the readings in such a way that you could form an argument either for or against it. ... You had to understand to such a level that you could write a paper almost in a thesis-argument form.”

Another student credited TARs with helping her/him get a better grade: “I think if this class were tailored to have two or three exams over the content and the readings and the lectures I think my grade would have been at least a letter grade lower.” Asked why, she/he explained, “There’s a certain amount of uncertainty you have when you are taking a test. There’s also other factors: [I] could have had a bad day ...” She/he also liked the autonomy they allowed: “TAR’s were [given out] several days in advance basically like a take home essay. ... If you had a mental block you could leave them alone, go away and come back to it when you were clearer headed. ... To me I think, the way it is tailored, it teaches people to teach themselves rather than trying to extract a bunch of facts.”

Another student mentioned the classroom dimension: “... we had discussions in class which helped a lot. And so bringing all that [readings, essays and discussion] together I learned a lot more.”

Mistakes and lessons learned

The most important lessons I have learned about JiTT resulted from mistakes I made: (1) It is possible to demand too much from students, to overwhelm them and cause them to become disaffected with the subject. (2) Students need the clarity of specific guidelines, including a minimum length for the essays.

Data consistently show the lowest values for Spring 2006, a semester when I overreached and failed to set specific expectations. Table 2 compares a set of questions for the 2006 and 2008 semesters that bear this out. In 2006, 78.1 percent of the students agreed or strongly agreed with the statement: “Completing the TARs assignments helped me better understand the course material.” In 2008, that figure increased to 96.1 percent. Considering the statement “Completing the TARs assignments made me feel more responsible for my success

in this course,” 74.7 percent of the students agreed or strongly agreed in 2006, while 93.4 percent did so in 2008. Figures for the statement “The TARs assignments helped me keep up with the reading and work in this class” were 78 percent in 2006 and 90.8 percent in 2008.

Table 2. Comparison of measures for two semesters				
	2		2	
	006		008	
TARs helped me better understand course material	7 8.1	0	9 6.1	6
TARs made me feel more responsible for my success	7 4.7	0	9 3.4	6
TARs helped me keep up with reading and work	7 8	0	9 0.8	6

In addition to fostering critical thinking, I used the TARs assignments in 2006 to practice formal writing standards. I required correct spelling, grammar, punctuation, and word usage, and stipulated a thesis-argument structure for every essay. I also declined requests by students to specify a minimum length for responses, insisting on “completeness” as the standard. My refusal stemmed partly from my belief that students should take responsibility for their own educations and should write as much, or little, as they considered valuable for their own learning. Since we did grade off for excessively short answers, this caused understandable confusion among some students.

My grading assistants embraced the writing standards with enthusiasm and early in the semester scored many students in the low 80s or below. In addition, the TARs counted for 30 percent of the course grade that year. By the fourth assignment, many students were straining and some were nearing disaffection.

In early February, I administered a questionnaire to gain input and give students a chance to vent their

frustrations. The key question was: “Does the learning you are gaining from the TARs assignments make them worth the work they require?” Of 92 students, 43.5 percent said yes, and 56.5 percent said no. In written responses, many said they felt uncertain because of my failure to specify a minimum length and overwhelmed by the combined demands of the reading, writing and language standards. In response, I reduced the assignments to one per week, reduced the questions to one per assignment and stipulated a length of 700 words, or two typewritten pages. At the end of the semester, student reaction improved more than 20 percentage points. Of 80 students, 65 percent said the learning was worth the work, while 35 percent answered no. Despite the changes, a small number of students had become disaffected with the course. On an end-of-semester questionnaire, about six out of 80 respondents harshly criticized the TARs, with comments such as: “I HATED THEM!” and “WAY TOO MUCH WRITING!!! We have other classes too.”

When I taught the course again in 2008, I decided to give more assignments but drop the writing-standards and relax the length requirement. The new expectation was for students to demonstrate they had done “the readings and thought about them.” After the first three rounds, except for very short responses, most scored in the 90s. This adjustment let me assign more TARs: 17 in 2008, compared with 11 in 2006, and ask two questions instead of one.

Although students read and wrote more in 2008, they reported greater satisfaction and less frustration. There were no antagonistic responses. I attribute this to the relaxation of the writing standards and perhaps also to a lowering of the stakes and concomitant stress; I changed the weight of the TARs component from 30 to 20 percent of the semester grade. I explained repeatedly that the TARs were formative, intended to help the students learn to think, respond to photographs and practice the mental operations, so they would do better on their essay exams and papers. While I was loath to abandon the language standards, I decided to focus the TARs solely on critical thinking, not on developing writing skills. I still stipulated high writing standards on the two papers.

I found support for this shift in Bean, who advocates using writing as a process instead of emphasizing it as a finished product. While he calls for professional writing at the end of the process, he advocates assigning many short, personal-writing assignments as the “seedbed ... out of which committed professional writing can

emerge” (Bean, 52).

With the decrease in pressure and de-emphasis on grades, the students’ acceptance of the method increased dramatically. At the end of the 2008 semester I again asked, “Did the learning you gained from the TARs assignments make them worth the work they required?” Of 72 students, 90.8 percent said the learning was worth the work, while 9.2 percent answered, no. (See Table 1.)

Of 61 who responded to the question “What contributed most to your learning in this course,” 15, or about 25 percent, cited TARs alone, and another 17 listed it in combination with other course components, for a total of more than 50 percent. In response to the prompt “I developed the interest and the research tools to continue studying the history of photography long after this course ends,” of 91 who responded in 2006, 80.2 percent strongly agreed or agreed, 13.2 percent were uncertain, and 6.6 percent disagreed. Responding to the same question in 2008, 88.3 strongly agreed or agreed, 9.1 percent were uncertain and 2.6 percent disagreed.

Students reported strong satisfaction in their written comments on the 2008 questionnaire. Responses to the prompt, “Please say anything you would like about the TARs assignments” included support for the oppositional readings, the discussions, and JiTT’s power to compel motivation and engagement:

- “Reading on both sides really helped me understand more about the topic.”
- “They helped me understand the material and [discussions] also made the large lecture feel much more intimate.”
- “They definitely motivated me to read the readings, otherwise I wouldn’t have read them and I guarantee that the TARs made others read as well.”
- “Even though I sometimes didn’t feel like doing them, once I sat down and actually did it I was glad that I took the time.”

These data and comments are snapshots from three semesters of my course. I do not claim they can be generalized. Skeptics who require a double-blind study before accepting any claims about teaching and learning will not find such proof here. Nonetheless, the numbers and especially the comments strongly suggest that JiTT can be effective in a humanities course. They are also consistent with data from courses in a wide range of disciplines, as delineated elsewhere in this book.

Conclusion

Over three semesters, I have found that JiTT, which was developed to help students master physics, can be successfully adapted to humanities courses. When implemented with well-chosen readings and carefully crafted questions, the method can foster critical thinking in the best liberal arts tradition. Despite the substantial work required, students consistently report that the learning they gained was worth the effort. While it may not be necessary to link JiTT to an educational theory, I have found it useful to base my questions on Bloom's cognitive objectives. JiTT can be used to drive students who are concerned about grades. Many will rise to whatever workload is demanded, even if they resent it. Based on my experience in 2006, I have concluded that, used injudiciously, JiTT can overwhelm students, pushing some to reject the method and become disaffected with the course and its subject. In 2006, I learned there is an upper limit to the amount of work instructors can require without alienating some students.

Used in an intensive writing mode to promote critical reading and thinking, JiTT works best when the writing standards are informal, and the emphasis is on analyzing ideas and applying knowledge. Rather than use it to coerce learning, instructors should employ JiTT a level where students embrace the method because it produces learning they feel is worth the work it requires. It then becomes a key step in their acquiring the tools to become life-long learners. This is consistent with the move from the teaching to a learning paradigm that Barr and Tagg (1995) advocate.

The standard model in many large-lecture courses involves transferring knowledge through lectures and textbooks. Grades are based primarily on two or three multiple-choice examinations, typically at Bloom's retention level. Good students expect they can succeed in such courses by taking notes, highlighting the textbook and reviewing for exams. Poor students may rely on last minute cramming, borrowing classmates' notes and skimming the textbook before exams. The focus is on grades, semester hours and diplomas—not deep, lasting learning.

JiTT fractures this culture. It requires students to remain engaged throughout the course by doing assignments on a regular schedule instead of studying in a few intensive sessions. Quantitative and written

responses from my students suggest it requires engagement in the course and, for many, increases their motivation to learn. I attribute students' positive reaction to JiTT to a fundamental desire to learn. If stimulating readings are chosen and provocative questions asked, this learning occurs at the higher cognitive levels. Such learning produces intellectual pleasure, which creates an upward spiral supporting more motivation and engagement. As one student wrote, "Learning just makes me want to learn even more!"

Beyond this, JiTT promotes self-autonomy. Students should take responsibility for and authority over their own education. Following the tenets of constructivism, they should build their own domain and procedural knowledge. To the degree that the TARs questions could be done at the students' own time and pace, they supported such autonomy. When students willingly choose to invest time in reading, thinking, and writing, rather than feel coerced to do so, when they see the work expended as contributing significantly to their learning and as worth the time and effort it requires, learning becomes its own motivation. Despite the negative reaction of a few students, consistent majorities rise to this level. Beyond this, JiTT promotes other best practices as articulated by Chickering and Gamson (1987), including active learning, increased student-faculty contact and high expectations.

Several studies have demonstrated that JiTT is effective in the natural and social sciences. The longitudinal data collected in my History of Twentieth Century Photography course suggest JiTT can be effective in motivating and engaging students in the humanities. Their increased learning is worth the effort required by instructors to implement the JiTT method.

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