

## Publishing and Citation Analysis: Needed Academic Partners

"Twenty years ago--only 45 % of all articles published in the top 4,500 top science journals were cited within the first five years after publication," and this "has dropped to ~ 41 % in 2009" (Bauerlein et al., 2010). Possible reasons are due to 1) there being an increasingly higher number of scientific journals available for publishing modest information (low-cited publications), 2) increasing demand on reviewers leading to lesser amounts of time for a quality review, and 3) increasing pressure on new faculty members to demonstrate productivity (Bauerlein et al. 2009).

Even the competition among citation search engines may be a cause of inflated publication rates as citation numbers may be used as a measure of productivity and some citation search engines (early in their development and when first introduced to the public) have been shown to bias citation data (Jacso, 2006; this author has written numerous articles on this subject). Consequently, publishing only in journals that are serviced by (say) Google Scholar might result in high citation numbers.....therefore showing higher productivity. Alternatively, use of other citation search engines (like all of ISI products) result in quite low citation numbers (Jacso, 2006). Depending on one's agenda, one might use one citation search engine over others. Realistically, a judicious use of numerous citation search engines and over a lengthy timeframe is required in order to obtain solid citation data (Dodson 2008; 2009).

In the science/teaching/advising business, and regardless of citation search engine used, one needs to publish new knowledge and perform citation analyses on their papers. The published paper needs to be in a journal whereby peers can gain from its appearance. Resulting citations show how well the paper was received, and the strength of its utility. Papers recently published, but already receiving citations, might be viewed as well-received, whereas papers with long-term publication dates and few citations might be viewed as lesser important papers.

As academicians, we work at institutions whereby a budget cut might fall each day. Pressure is increasingly placed on us to "perform" with limiting resources. Publishing papers that impacts one field remains a core measure of productivity. While the (actual) measure of citations (per paper) over time is a bit tedious, it is needed and will be a vital part of justifying existence of departments, programs, and individuals.

## References Cited

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## Asking Questions

Asking and answering questions are central to the learning process and to effective teaching. Do teachers use this technique and do they ask questions that require students to think?

Good questioning techniques help instructors achieve three extremely goals:

**Formative Assessment** – Questions provide immediate feedback to help you determine if your students are learning. Your students' responses signal you to proceed or possibly to return to some of the points they didn't quite understand.

**Student Engagement** – If you are asking questions, good questions, your students are thinking. Questions put their minds in gear so to speak. In that way, your questions are a catalyst for learning.

**Rich and Enhanced Learning** – Well constructed questions get students thinking about the important concepts and help them go beyond memorization to learning and understanding.

What questions should instructors ask? Obviously instructors should use their course learning objectives as the basis for questions. The questions should be those underlying concepts, principles, facts, and details associated with the course outcomes. These could be called the micro-objectives. Formulate question so the correct responses will validate your students' command of those micro-objectives – the concepts, principles, facts, and details by which you will assess their command of the course objectives.

Questions instructors should use are ones we all

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know: Who, What, Where, When, Why, and How? Instructors should also use cause-and-effect and hypothetical questions.

Other types of questions that could be added to the list are for those teaching a lab or hands-on course, is performance. Such a question might begin with “Show me how ...” or “Please demonstrate ...”

Perhaps the most challenging tactic is to wait silently for an answer. The silence can feel awkward, but it may be the only way to get some students to respond. Still it should not be overdone. A long period of silence will create a stressful situation for the students.

If you criticize a student's response, or in any way make a student feel dumb, you will lose that student. Actually, it may even be worse. You may create an enemy whose written comments on his or her end-of-term evaluation will be less than flattering.

Some final words of wisdom about asking questions in class:

- Prepare questions in advance, ones that will promote student learning.

- Don't be too rigid. Improvise. Adapt to your students' responses.

- Avoid yes/no questions, especially ones like, “Did everybody understand that?” and the totally useless “Are there any questions?”

- Use technology such as online threaded discussions and clickers.

- Use questioning techniques that engage your students but don't intimidate or criticize them.

- Use questions to find out what your students know, not ones that embarrass or punish them for what they don't know.

- Reflect on your questioning after each class. Decide what worked and what didn't work. Make adjustments for the next class.

- Work on your technique. Questioning is a skill and an art.

- Practice your art. Questioning must be a habit. You need to make good questioning your habit.

- Ask one of the most important questions of all: How am I doing?