A Pragmatic Solution to the Dikti Memorandum [No.152/E/T/2012]

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Recently, there has been a considerable amount of ruckus in Indonesia caused by Dikti memorandum No.152/E/T/2012 regarding the added requirement for obtaining academic degrees at the university level. Undoubtedly, I view this particular policy (especially Point #1) as a poor judgement by Dikti. However, I would like to lay a claim that it is possible to construct certain practical implementation that will only produce a minimal amount of damage on the well being of S1 students — but is formally compliant to Point #1 of the above memorandum. The concept [of the implementation I am proposing] is inspired by what had been employed in the undergraduate course 8.06 Quantum Physics III at the Massachusetts Institute of Technology for many years.

The main plan [in this particular implementation] is for each department in every Indonesian university to absorb the "scientific journal publication requirement" into one of their own existing S1 courses, as a term paper or term project component of the course syllabus.

In short, some details of this [proposed] implementation are as follows:

- Each student taking the course will be required to write a paper (in the format of a professional journal article) on an advanced topic (related to the course) that simply goes one or two steps beyond the standard material covered in lectures. The paper must explain certain concept, problem, or phenomenon using the available scientific frameworks that are familiar to those taking the course. Students will gather relevant material via modeling, experiments, literature studies etc.

- The target audience of the paper would be none other than fellow students who are taking the course. In other words, each student must aim at writing a paper with level of rigor and clarity that would enable their peers to learn some new and useful scientific knowledge effectively and efficiently.

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- Each student will review one (or two) of the draft paper(s) written by their peers, and is expected to give some critique/feedback that would be useful for further revision of the draft paper(s). There would be some critique/feedback from the teaching assistants as well.

- Students will then write a revision based on their first draft and the feedback they received from their peers and the teaching assistants. The revised final version of the paper shall be submitted at the end of the semester to be graded A/B/C/D by the course instructor.

- The graded papers will finally be "published" as entries to a designated subcategory of certain "Journal of Undergraduate OOOO Majors" (ideally the journal would operate under a consortium of universities across the nation).

- The paper-printed version of this specific section of the journal will be made available to all students who are taking the course, so that they can learn from each other by reading what their peers have researched and written. Only limited amount of the paper version will be printed, but permanent digital version of the papers will be stored in a centralized online repository — accessible by the general public.

A swift execution of this plan really depends on the ability and willingness of the top leadership in various universities to form a consortium, establish the various journal categories, and obtain the appropriate accreditation (or simply a publication license) from Kemdikbud. In this way, we would be able to meet the formality dictated by Point #1 of memorandum No./52/E/T/2012 without imposing any unreasonable amount of workload to the S1 students.

Moreover, we kill more than one bird with one stone. This type of implementation automatically answers the concern "who will read those scientific papers written by the undergrads?" Their own student peers will (as a way to learn from each other). Another concern that "undergrads will write rubbish due to lack of motivation" could also be suppressed because the papers are written as part of a regular course with letter grades A/B/C/D to be assigned accordingly based on the work quality. The risk that "good papers will be drowned in an ocean of bad papers" could be reduced by sorting the papers in each subcategory by their A/B/C/D letter grades. Perhaps not all of these papers are great, but we might just find several truly excellent ones that could lead to a more serious research — inspiration for various *skripsi* projects.

I have to admit, this proposed plan is only a partial solution to the "Dikti Problem". Although this type of plan could be further modified to also include the S2 students, a more sustainable implementation for the S3 students still needs to be figured out. Another available strategy that universities can adopt is to allow co-authorship of journal articles by S2 and S3 students, which will relieve some of the heavy burden.

In the long run, Dikti will inevitably need to reconsider the policy and start to attack the actual root cause of our academic problem: non-conducive atmosphere and weak propensity for research. Alas, this turning point might not happen very soon. It may take many years to have a bad policy revoked. Until then, we must focus on constructing feasible implementations that will minimize the overall harm.

P.S.
Here is a web archive of the MIT physics course 8.06 Quantum Physics III (Spring 2005):
http://ocw.mit.edu/courses/physics/8-06-quantum-physics-iii-spring-2005/projects/