



# PRAKTIKUM VERIFIKASI VERSUS PRAKTIKUM BERBASIS INKUIRI TERBIMBING

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**Prodi pendidikan IPA SPs UPI**



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
1	Based on detailed set of instructions.	Based primarily on guiding questions.
2	Students follow step-by-step directions to conduct experiment.	Students develop own experimental design.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
3	Lab strongly oriented toward gathering and interpreting numerical data	Lab strongly oriented toward developing a strong conceptual understanding.
4	Student activity focuses on verifying information previously communicated in class.	Student activity focuses on discovering new concepts, principles, or empirical relationships.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
5	Generally little communication, and what exists tends to be one way – from teacher to student.	Discussion driven by a series of intellectually engaging questions.
6	Rarely incorporates learning cycles (observation, generalization, application).	Engages one or more complete learning cycles.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
7	Students provided data tables with specified ranges for specific types of data.	Students determine what type of data and how much of it to collect.
8	Tells student what data to collect.	Leaves it up to the students to determine what data to collect.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
9	Students do not design experiment.	Students create experimental design on the basis of discovered principles.
10	Students communicate results only to course instructor through lab reports.	Students communicate and defend results to other participants in the lab session.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
11	Emphasis on completing task.	Emphasis on achieving conceptual and scientific understanding using empirical data.
12	Students generally do not predict, or predictions based upon known rules or laws.	Students asked to generate predictions based upon deductive processes.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
13	Students generally do not use inductive processes.	Students asked to generate principles on the basis of inductive processes.
14	Students are told which variables to hold constant, and which to vary, which are independent and which dependent.	Students identify, distinguish, and properly control pertinent independent and dependent variables.





No	Praktikum Verifikasi	Praktikum berbasis inkuiri
15	Students provided with a fixed instrumentation set up.	Students provided with a variety of technology and instrumentation but no fixed set up.
16	Very little interaction between lab instructor and students.	Large amounts of question-drive interaction between lab instructor and students.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
17	Students told precisely how to analyze and interpret data.	Students use their own approaches to analyzing and interpreting data.
18	Employs lower-order thinking skills.	Promotes higher-order thinking skills.



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
19	Focus on completing tasks.	Focus on learning science.
20	Less time on task as students/teaching assistant often spend lots of time going over the instructions.	More time on task as there is a very brief introduction and students create their own instructional design



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
21	Conclusion known ahead of time.	Discovery process uses empirical results to draw conclusion.
22	Lab driven by instructions.	Lab driven by unanswered questions



No	Praktikum Verifikasi	Praktikum berbasis inkuiri
23	Discourages development of conceptual understanding of propositional and procedural knowledge.	Promotes development of conceptual understanding of propositional and procedural knowledge – a prerequisite for conducting a lab experiment
24	Moves from abstract toward concrete.	Moves from concrete toward abstract.