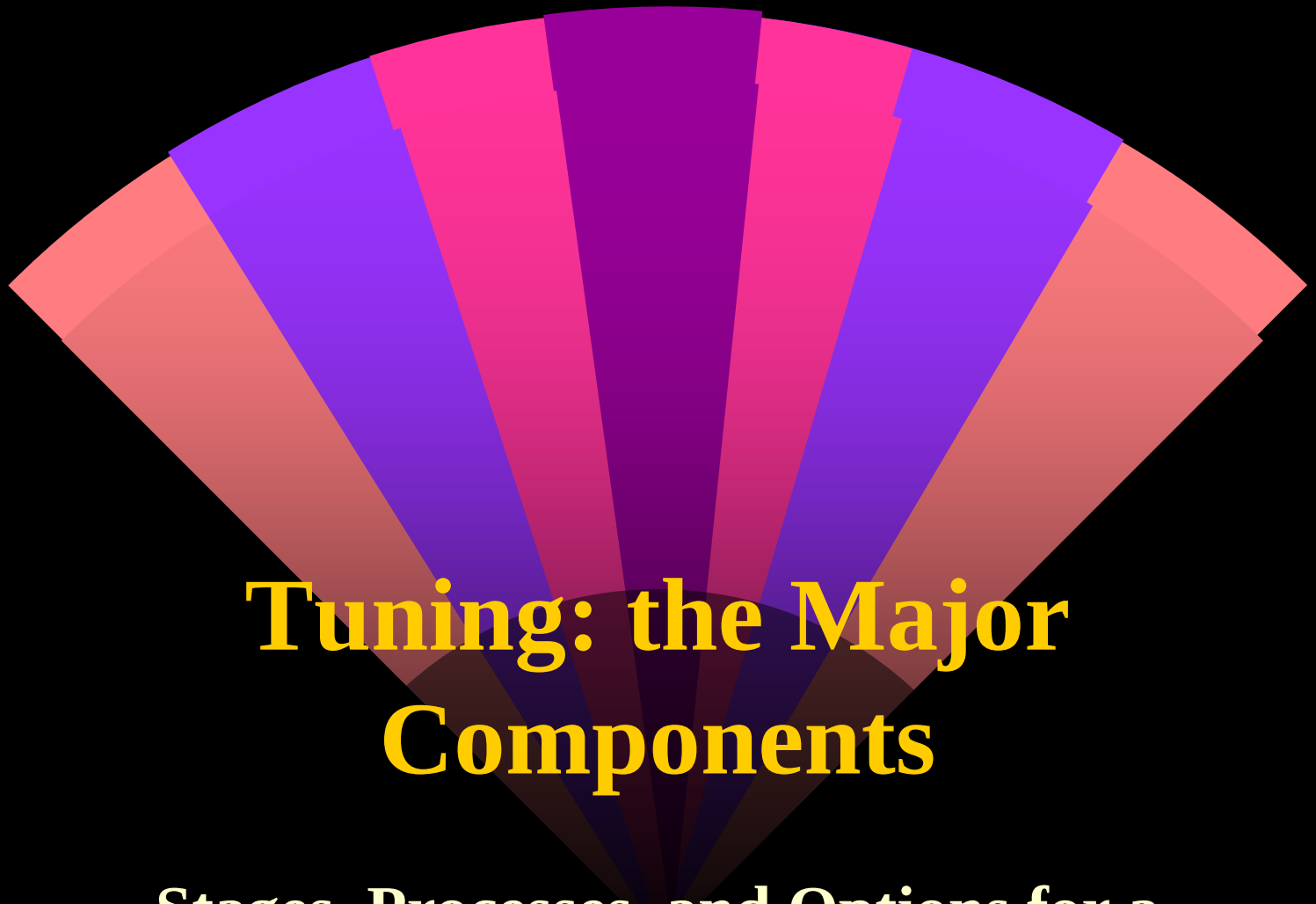


Tuning: the Major Components

Stages, Processes, and Options for a Tuning Adventure in Any Discipline

Cliff Adelman; March 2013

Fore-matter (Introductory Material) for a Final Tuning Statement in a Discipline

- Motivation for undertaking this task
- History of Tuning as a Global Imperative
- Account of who stimulated and organized the Tuning effort in Japan
- Account of who participated in the Tuning effort in Japan [put the list of personnel and meetings in an Appendix]
- Acknowledgements

Basic Outline of a Final Tuning Statement

- Presentation of the Discipline
- Core concepts of discipline content and methodologies
- Discipline-specific competences students are expected/required to demonstrate
- Generic degree-level competences students are expected/required to demonstrate
- Discipline-specific student learning outcome statements

Presentation: to whom are you speaking?

- Other faculty in your field?
- Students?
- Makers of public policy?
- Faculty in other disciplines?
- Employers of your graduates, large and small?
- Some combination of these?

Your choice determines how to present the results of your work.

How does a discipline present itself?: some considerations

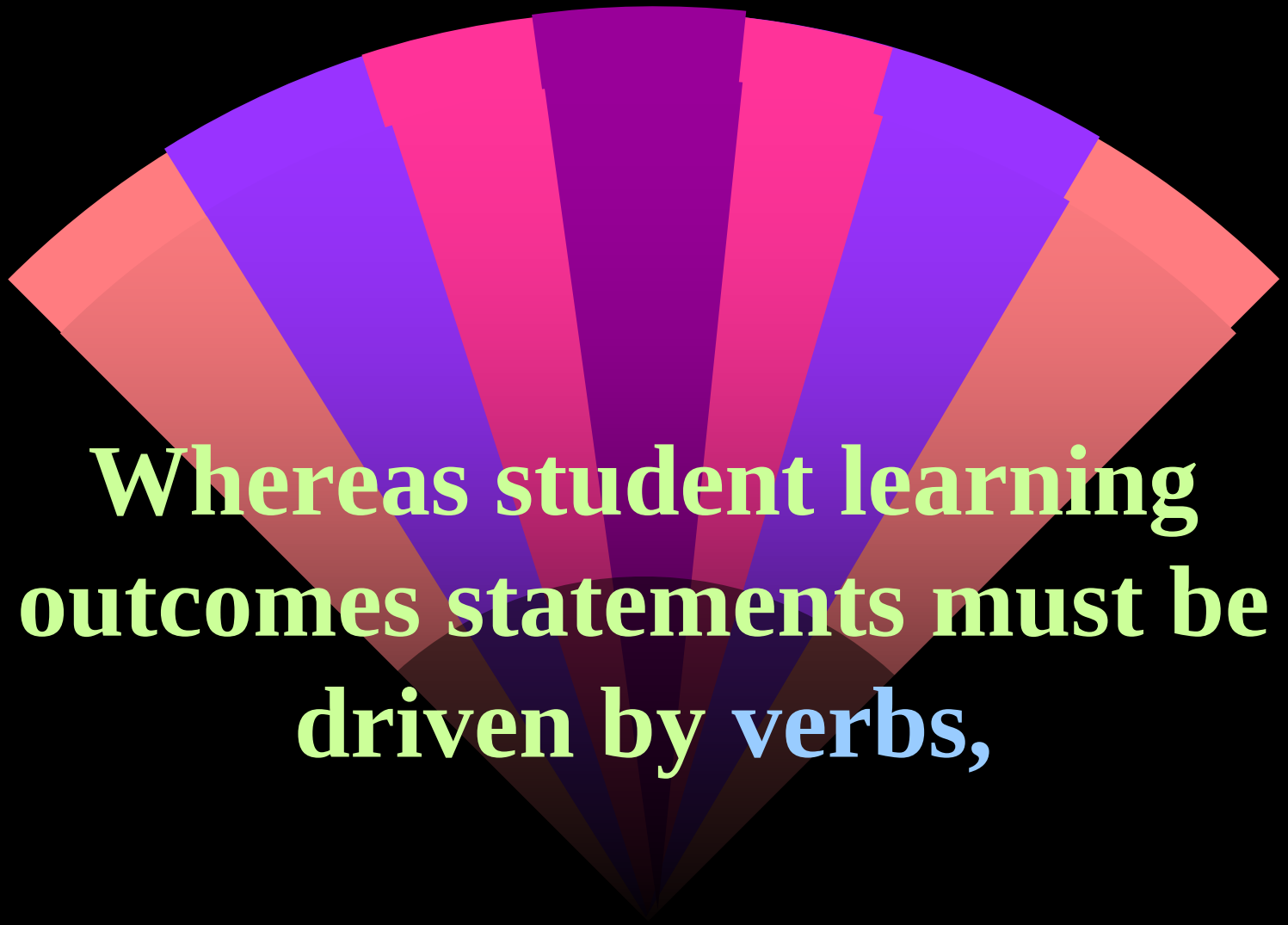
- Our discipline occupies a distinctive place in the world of learning, and
- Our discipline is related to other fields, draws on other fields, and is used by other fields or
- Our discipline is a composite of others and grew principally from others to its current position.

Claims of relations to other disciplines are very dominant at this phase of presentation, for example:

- **You cannot study economics without public policy, IT, and law**
- **You cannot study psychology without biology, statistics, and. . .**
- **You cannot study archaeology without biochemistry, geology, and materials science.**

And the presentation can also include statements of boundaries, attitudes, behaviors, for example, for any science

- Our science is about innovation and creativity
- The methods of our science are limited and discoveries sometimes happen by chance
- All the knowledge of our science is testable, contestable, and subject to reevaluation
- Our science has social roles and social impact, both locally and globally.



Whereas student learning outcomes statements must be driven by verbs,

the core concepts section of a Tuning report is driven by nouns.

Tuning “CoreConcepts” can include:

- A listing of discipline-specific principles
- A listing of dominant methods and processes of the field
- A listing of the most prominent tools and information sources in the field
- An accounting of the field’s physical environments and their treatment, ranging from laboratories to art studios

Example of a more selective and highly specific set of core concepts, in Economics

- microeconomic issues of decision and choice;
- the production and exchange of goods;
- the pricing and use of inputs;
- the interdependency of markets;
- macroeconomic issues of employment, inflation, distribution of income, etc.

And one could add another set of even more discrete discipline concept keys, for example:

- **opportunity cost**
- **equilibrium, disequilibrium, and stability**
- **the roles of bargaining and negotiation.**

The point is that by the time the core concepts and methods have been set out, your audience(s) know that this document is about economics and not about nursing or history.

Another approach to core concepts moves toward discipline-specific competence areas for students, for example, in civil engineering:

- **Engineering mechanics**
- **Structural analysis and design**
- **Geotechnical characterization**
- **Transportation systems**
- **Construction materials**

It is like a recitation of the subjects students study in this field and not in other fields (well, engineering mechanics may be an exception here)

What does your Tuning group do with core concepts?

- It agrees that these are the “touchstones” of the discipline.
- It agrees that every participating program will address these concepts and methodologies in its curriculum and expectations for student learning.
- It acknowledges that each program will touch these reference points in different ways, and with different emphases.
- This agreement produces the first phase of “convergence.” It does NOT standardize!

Next you move on to Competences and Student Learning Outcomes (SLOs)

- Historically, the Tuning process helps you articulate competences and outcomes through surveys of employers and recent graduates of your programs.
- I advise using focus-group discussions of these external “consultants” instead. Focus-group discussions produce more depth and yield more topics than surveys.
- It is your choice, though.

“Competences” are larger structures than SLOs: These Competences are “Reference Points”

- **A competence might read: “Fluency in the identification and use of information resources.” That is a generalized level of diction.**
- **A generic SLO might read: “The student incorporates multiple information resources in different media and/or different languages in projects, papers or performances, and evaluates the comparative worth of competing information resources.” This is a more discrete and detailed outcome statement. Note the verbs!**
- **A discipline-specific SLO might read: “The student accesses one or more of the chemical information systems and assesses safety and hazard information on chemicals commonly used in his/her laboratory tasks.” Again, note the verbs!**

Two key guidelines

- **Both competences (general) and SLOs (specific) describe what a student knows and is able to do.**
- **These are *achieved* outcomes, not intended outcomes, therefore**
- **Illustrative assignments and assessments are critical to their presentation.**

Your next task: develop a Beta-list of Competences

- Take the list to your focus-group discussions.
- Ask participants in those discussions to (a) add to/modify the list, (b) suggest more detailed but generic SLOs based on the Competences, and (c) describe discipline-specific SLOs.
- For employers, all three levels should address what they expect of graduates;
- For recent graduates, all three levels should address (a) what they actually do on the job, and (b) the degree of expertise they acquired while at the university.

Language is incredibly important in these discussions, so. . .

- **Use verbs that describe what students (and later, employees) do!**
- **So, no *jikaku*! no *kansha*! no (I don't know how to say this in Japanese) "critical thinking."**
- **And do not describe any competence as a *noryoku*! You do not know that a student has the "ability" to do something until they actually do it! So describe what they do! Use the verbs! And Japanese is a language rich in verbs.**

If we were conducting a trial Tuning exercise today, we would pause now, and ask you, in small groups . . .

- **To write a set of core concepts in your discipline. . .**
- **To draft a set of discipline-referenced Competences . . .**
- **To illustrate your Competences with one or two Student Learning Outcomes. . .**
- **Then, offer a sample of assignments, test questions, and other assessments that would elicit the student behaviors that allow you to judge whether the outcomes have been *achieved.***

We would revisit each group over the course of the next two hours. We would see how far we get, and would ask you if you wish to continue Tuning in the future---and how.

Faculty understand Tuning the minute they see examples of assignments and test questions

- **It is an "Ah-ha!" moment for faculty. That is, they begin to see what Tuning is about**
- **But, they will not fully understand until they work *backwards* from the examples.**
- **So one asks them what discipline-specific competences are elicited by the examples, and then,**
- **What generic degree-qualifying competences are elicited.**

Let us illustrate with examples of assignments in Economics

- The student explains and illustrates core economic analysis models of the production possibilities curve and the principle of comparative advantage.
- The student constructs and presents a series of charts illustrating the effects on unemployment rates of raising taxes and slowing money supply growth.

More examples from Economnics

- **From archival and secondary sources, the student builds tables of meteorological conditions, trade routes, and commodity volumes for the Mediterranean area in the 16th Century, and determines and discusses which cities held comparative economic advantage.**
- **The student illustrates variations on "returns to scale" for the following types of economic output: a food commodity, a core electronic product, a human physical service, and a human transaction service.**

From these (and other similar) cases, which underlying competences are being elicited?

- Identification and use of information resources
- Abstracting, aggregating, synthesizing
- Defining, explaining, and evaluating
- Analyzing and applying theory
- Calculating and algorithmic/symbolic operations
- Communicating in more than one medium

One should be able to draw a direct line from the assessment to one or more of these (and others).

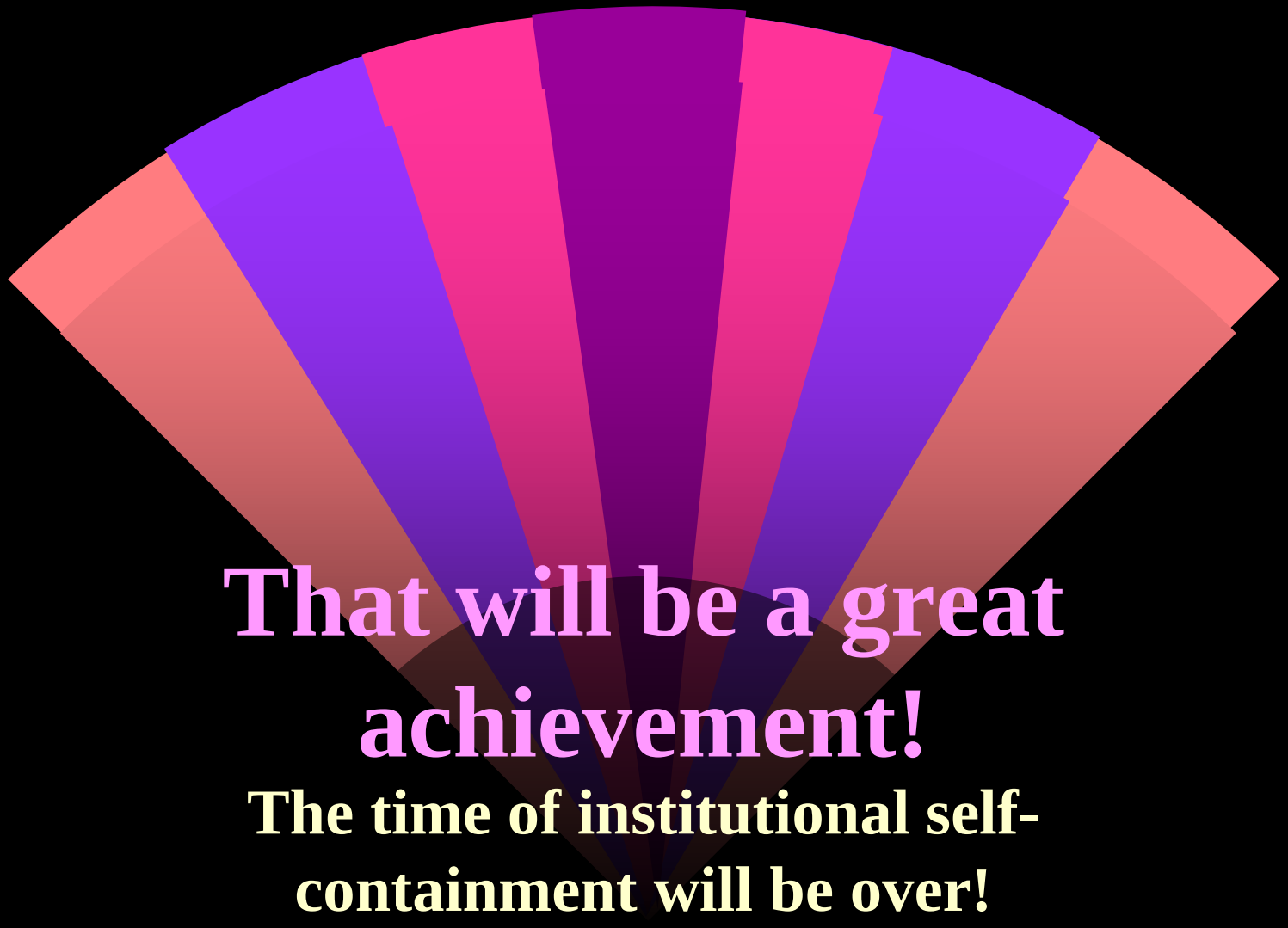
Each of these competences has both generic and subject-specific phrasings, for example:

- Abstracting (economic trends, metaphor patterns in literature, reaction types in chemistry
- Identification and use of information sources (Physicians' Desk Reference in Nursing, Chemical Information System, historical archives)
- Translations to/from algorithms and symbolic operations (error analysis in chemistry, econometric formulas, logistic regressions in a range of fields)

You can write a competency statement and specific learning outcome for each. That is the bottom line of Tuning.

And when you are finished (it will take some time):

- Faculty may revise their assignments, may make adjustments to their curriculum, but will feel that they have full ownership
- Your students will know what they will learn and master, and will take these objectives far more seriously than they do now.
- Employers will have a guarantee of the knowledge and skills of those they hire.
- And universities will be talking to each other and accepting each other's students because they are confident in the students' qualifications.



That will be a great achievement!

The time of institutional self-containment will be over!

And we will all be standing in a circle, holding hands!