**Supplementary Table 1: Codes related to learning goals**

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| **Code name and individual code kappa** | **Description** | **Example quotes** |
| Drawing real world connections(1.00) | Instructors discuss the ways in which their learning goals include connecting course content to “real world” applications or occurrences | “It’s a microbiology course, and since the students are going into nursing we start off with what we call ‘disease of the day’… The first 15 minutes, we’ll focus on diphtheria.”“I usually also start the lecture with a discussion of the current weather.” |
| Skills development(0.88) | Instructors discuss their desire to instill particular skills or habits of mind in their students | “A lot of the focus that I have tried to give this semester is, I find that these students, when they come in, are terrible about answering essay questions... So what we’re trying to instill in them is this concept that the first thing you do is sit there and you think about the bullet points that provide the answer before you start to write the answer, and once you have the bullet points, you can start to craft the answers.”“I am going to start a new unit on the human body and how certain parts of it function, what it is made of and why. And in some parts of it, I’ll talk a little bit about how to model, how to put a mathematical model to the tissue or the function that’s going on in the body.” |
| Content coverage and topics(0.93) | Instructors discuss their learning goals in the context of the topics or content they wish to cover |  “So next week, we have the chapter 5 online textbook, which includes microbial metabolism.”“We are in Unit 3, and Unit 3 covers - um, let me get out my sheet here - chemical bonds, states of matter, and the greenhouse effect.” |
| Bloom’s level: Knowledge(0.88) | A learning goal that can be classified as “knowledge” within Bloom’s Taxonomy (often co-coded with other Bloom’s levels) | “So for the learning goals, there will be slides with all the steps and replication. So I would like the students to have in their own mind what steps come in what order, and what the name of the enzyme is…”“Because they are going to be veterinarians, the important things are very straightforward – they have to know these organisms, they have to know what they are, the common names, the scientific names and that kind of thing…” |
| Bloom’s level: Comprehension(0.79) | A learning goal that can be classified as “comprehension” within Bloom’s Taxonomy(often co-coded with other Bloom’s levels) | “And then the other major learning goal would be, there’s two polymerases, DNA polymerase three and DNA polymerase one, so if they at the end could describe lucidly how they’re different in replication, what activity differences they have, I would be quite happy with that.” “We’re talking about biomaterials right now. So we’ve been talking about different alloys, stainless steel, titanium, things like that – what the differences and similarities are between different materials and why they might use some for different applications versus the others.” |
| Bloom’s level: Application(1.00) | A learning goal that can be classified as “application” within Bloom’s Taxonomy (often co-coded with other Bloom’s levels) | “That is to say I’ll be working a few example problems on how to apply Newton’s three laws of mechanics to various physical situations, free-body diagrams, calculations with some numbers…”“It’s to be able to draw mechanisms for reactions of Grignard reagents with ketones and aldehydes, and then be able to apply those reactions in multi-step synthesis pathways with reactions that we’ve learned from previous chapters.” |
| Bloom’s level: Analysis(1.00) | A learning goal that can be classified as “analysis” within Bloom’s Taxonomy (often co-coded with other Bloom’s levels) | “We’re covering the secretory pathway… I’ve been trying to use a style of having them try to understand experimental results, so it’s a little bit more of a course where they have to look at information and see how interpretations are drawn from the information, so one of my goals for the course in general is for them to recognize how to process information.” “I want students to stop working with algorithmic problem solving and prescription-based problem solving and move to solving complex problems based on their understanding of the system and basic laws… I always want students not to solve problems step-by-step but instead, solve problems by understanding the system and building up an analytical description of the system.” |
| Bloom’s level: Evaluation(1.00) | A learning goal that can be classified as “evaluation” within Bloom’s Taxonomy (often co-coded with other Bloom’s levels) | “For the class, it’s for them to think independently about if somebody was to give them a target or they got a job where somebody said ‘make this’… that your first and most realistic thing would be, of course, you’d sit down and you’d bang through SciFinder or something else. And you’d look for things that were similar… giving them the feeling that it’s so easy to go, once you go off the road, you’re really in the weeds, with even small changes. So the reason is that you have to then be able to start to say, ‘is this the best way?’”  |
| Bloom’s level: Synthesis(0.88) | A learning goal that can be classified as “synthesis” within Bloom’s Taxonomy (often co-coded with other Bloom’s levels) | “That is to be able to essentially, in terms of the biological sense, derive models for the independent growth and be able to use that to make predications and derive a model or build a model for density dependent growth.”“So this is what your student does, a 6 year old child does - you tell me how you would respond to that. So the learning goals are really to connect that to their own classrooms and connect that in their future classrooms and see, ‘okay, this is a situation that could arise, what do I do in that situation.’”  |