Minutes of the Regular Meeting of the Arts & Sciences Council

Thursday, November 13 2014

Call to Order

Council Chair Professor Thomas Robisheaux (History): Colleagues, let me welcome you to the November meeting of the Arts and Sciences council. Let me welcome our guests, in particular. Meetings of the council are open to everyone in the university community, so if you want to come and listen you are welcome to comment. Of course, you cannot vote because only representatives can vote. I want to thank representatives for your service. At this time of the semester when the bite starts to hurt, I want to remind you that your service on the council makes it possible for your colleagues to do other things. The times that you are not here, somebody else is covering for you and you can trust that they will bring your attention to all of the important matters before council. It helps a little bit before Thanksgiving when we are all wondering if we need another meeting to go to. You do need to go, because your colleagues count on you.

Some of you are new representatives and are figuring out your own best practices, so let me suggest a couple of things. Your colleagues and units depend on you to inform them. Do not assume that your colleagues know anything at all about what is going on at the college level. Most of the time, that is fine but we try to bring up everything that is upcoming and important. It is vital that you serve as that information and reporting link. At the very least, talk to your chairs, DUSs, and department officers about important business that is before council right now or that may concern you and your unit in the future; I will try to give you a heads up about that. Five minutes makes a world of difference, and I thank those of you who have made it a regular practice at your department meetings to have five minutes of your colleagues’ valuable time to keep them informed of everything that is coming before council. Today, there is no voting; your presence is important because you are going to be informed of something we will be voting on. If an alternate is not here, you are fine, but next month be sure your unit is represented because more likely than not we will have one item that we will be voting on.

I have been trying to encourage you to bring your laptop computers from which you can consult documents. I have been putting them up on our Arts and Sciences Sakai site to minimize as much as possible the needless production of documents for one brief moment. Please bring your own laptop. You can download all of the documents during the meeting and for your colleagues as well. I do not make available proposals and other documents for council. It is not that they are top secret, but it is because most of our colleagues trust that you will take care of business. If somebody is interested in an item of business and you want to share one of the documents on Sakai, please feel free to do so. You have access, but not all faculty members do.

Approval of Minutes

The next order of business has to do with the minutes from the October meeting. They are up on the site and have been available for you to read, look over, and find any errors or corrections that you would like to recommend. Are there any such recommendations for corrections to the October minutes? Do I hear a motion to approve the minutes?

Steffen Bass (Physics): So moved.

Carol Apollonio (Slavic and Eurasian Studies): Seconded

Thomas Robisheaux (History): All those in favor? All those opposed? The motion carries, and the minutes from October are approved. Remember that these are archived, so if you want to go back and review some things, you can. For example, next month we will be returning to DKU matters and you may very well want to review the October meeting minutes where Nora Bynum gave such a full report on the opening of DKU. It could serve as a great background and let you enter the discussion at a deeper level.

Announcements and Updates

I have a couple of other announcements for you, one having to do with DKU. This is just a heads up for you on two fronts. The DKU joint committee, which is composed of the courses committee and the curriculum committee, is poised to complete all of its course review and approvals for this fall. We have two more that we are almost finished with, which will
complete our fall review process. I wanted to give you a heads up about December. ECASC has invited Noah Pickus to come to council to report to you and have you engage him in a discussion about the development of the undergraduate curriculum for DKU. If you know Noah, you know what an energetic and wise colleague he is. It is no accident that he has been asked to chair the liberal arts in China committee.

For those of you who need your memory refreshed, the liberal arts in China committee was formed by Laurie Patton and Nora Bynum to advise on the principles and practices of the new undergraduate liberal arts curriculum that will be developed at DKU. They have been meeting for a year and a half or so and have been working on principles, but now they are reaching a point where they are asking for more input. By the spring, I think their ideas will take a more concrete form. Noah was with ECASC at one of its meetings a couple of weeks ago, and it was a very interesting discussion. I assume most people here are interested in liberal arts in the 21st century and the process of devising them for a university. Imagine the opportunity to create something entirely new. It is a very exciting thing. You do not have to deal with the past and you can create something new for a new environment and a new mission. It is a very stimulating project. Noah will come in December and probably again in the spring to solicit more of your input. He wants to hear from you, and I am going to be asking Noah for some documents that you can chew over before the meeting so that you can engage him and his committee’s request for feedback as completely as possible.

I have a couple of quick announcements before we get to our first item of business. Sherryl Broverman is here; some of you may know that Sherryl has been asked by ECASC to chair the plagiarism sanctions review committee. This was first thought about and broached in the spring, and earlier in the semester, Sherryl agreed to do it. She is joined by three other colleagues: Karen Shapiro, Melissa Malouf, and Steve Vaisey. They have started to gather materials, and their charge is narrow, but in the context of current events, it is very timely. They are not reviewing everything about plagiarism, behavior, and practices but they are narrowly focused on the sanctions for plagiarism. We will be looking forward to hearing from Sherryl and her committee very early in 2015.

Finally, I have been in contact with Suzanne Shanahan, who is chairing the Imagining the Duke Curriculum committee. They have been having some very stimulating Friday afternoon sessions. Believe me, if you are a liberal arts junkie and you love thinking about teaching, this replaces any Friday afternoon happy hour you could go to. I feel happier leaving that group than I do on any other occasion. It is stimulating, they are very searching, and have very probing discussions. I want to remind you as representatives that this committee is operating in a very open, transparent, and listening mode. If your unit wants to meet with the committee, they will meet with you. They have met with a number of groups of faculty and departments and they are waiting for a note from you. I promise you that Suzanne welcomes it, because the more of us who contribute to the process the better. In a couple of weeks, they will be meeting with ECASC. In talking with Suzanne, I think they may be ready to make a concrete report with some interesting core ideas and concepts that they would like for you to become familiar with. [That will be] early in 2015.

It gives me great pleasure to welcome our Provost Sally Kornbluth to the Arts and Sciences council. You all know her job is hopelessly immense and all encompassing. We have such high expectations of our provost. From my limited experience with Sally, I know she is an extraordinary listener. She has a keen interest in what goes on in Arts and Sciences and elsewhere in the university. I have always found her to have a very alert ear. She brings energy and fresh perspective and she is very welcome. I know she looks forward to your views today. She wants to talk with us and engage you on the process of strategic planning that is underway right now.

**Strategic Planning and Arts and Sciences**

**Provost Sally Kornbluth:** I appreciate the opportunity [to be here]. I want to offer my apologies to anyone who is on the Academic Council who has heard this before. Hopefully, I will not belabor the background too much, so we can get to the discussion. I probably do not have to explain why we are strategic planning because it is pretty obvious. I will say that to me, the most important point is to articulate new creative approaches, directions, and solutions to problems. This is a pre-planning year, which means this year I want to define the broad themes of the strategic plan and fill in the details next year. The point of this year is to have a lot of discussions with faculty to tease out what our major themes should be. In the course of that, I am hoping we will come up with new, exciting, and interesting ideas as part of the conversation. We are doing it in the framework of strategic planning, but I think the strategic planning is a mechanism for drawing out these conversations.

If you look at the last strategic plan from 2006 and read it today, it almost looks like it was written after everything was underway, and you can really see the hallmarks of Duke in this plan. There was a lot about interdisciplinary, knowledge in the service of society, the central role of the humanities and the interpretive social sciences, internationalization and diversity, and affordability and access. Those are the themes you can pick up by looking through the executive summary, never mind the whole plan. What that says to me is that people took this plan seriously, and it was trying to provide an overall framework for where investments were going to be made going forward. In the interest of time, I will not read this since it is all online. The bottom line is that there were many broad buckets that were defined, and they were filled quite actively over the eight years or so since the 2006 strategic plan. What this says is that first of all, this can be an effective process in teasing out ideas. Second, I would like to craft a plan that would provide guidelines going forward for the next five to ten years.

How do we go about it? I want this to be a year of pre-planning. People ask me what my vision is, and truthfully, I have a lot of ideas. First of all, I am cognizant of the fact that when people craft their own ideas there is much more buy in and things are more effective. Second, I really want to tap into everyone else’s creative ideas because I already know what
my ideas are. I would like to have widespread faculty engagement to generate ideas and have this be an iterative process. The other thing I should say is that this is an academic strategic plan. Peter Feaver who is chair of the UPC has raised another plan, which he calls the “uber plan.” How does the academic plan fit into everything else? Things like athletics, admissions, and all of the other parts of the university. The reason this is important, as I will get to later, is that it defines the resource envelope of the academic plan. We have to think about how we are going to apportion resources across the whole spectrum of things, but my focus is going to be on the academic piece. I think it is important to think about how these other things interface and impact how we view that academic piece.

The other thing is, even though the previous plan reverberates around the campus now, I do not view this as a contract. In other words, it is not as though we will write something down and have to stick to the plan. It is really a roadmap; I like concrete deliverables but it is not an instruction manual or a contract. I want this process to tease out the best ideas and also prioritize where our resources go. If we had unlimited resources, a lot of things would be easier, but the pressure to prioritize would not be as great.

How do I plan to do this? There is going to be a steering committee drawn from all of the schools, and there are going to be faculty chairs. In the past, this process was run largely out of the provost’s office. I am still planning to play an active role in this, but there is going to be a faculty committee and faculty chairs of the process. They are going to be running it with a liaison to the provost’s office. Keith Whitfield will help the liaison function as an ex officio etc. What I am hoping will happen is that the steering committee will interface with different groups, such as the Arts and Sciences Council and departments, as well as the deans. The deans are going to be asked, along with the center and institute directors, to have a one page strategic summary.

The cornerstone of this discussion, which I will flesh out in a moment, is to have a lot of dinners. I am going to be involved directly with people from student organizations and with faculty. [I will meet with] groups of 10, 12, or 15 faculty [members] that are going to discuss broader questions. If we are going to have 20 dinners, and I want to get a broad swath of faculty, the first question that comes up is how are we going to select those faculty members? I considered having them at my home, but I am still thinking about it with the acknowledgement that my home is more on the order of graduate student housing than one might expect. In any case, what I have started to evolve to is the idea that we will do some selection of people across the schools so we know we have coverage, but I am thinking of having an open website with dates and making it a first come, first serve. I am not sure how that would work either, so that is still in process. We want to start very soon, so in the next couple of weeks I think you will see some decision about that. Certainly, if there are people who want to be in the discussion, as soon as we announce the steering committee you should let people know that you want to be involved. We will make sure to find a place for people in these discussions.

As I said, the steering committee will also be reaching out to school governance bodies. There will be discussions with the academic programs committee, academic council, deans of students, and the center of directors. Basically, the idea is to draw in as much conversation as we can about what the themes should be. Between the dinners, conversation, and steering committee the idea is, at the end of the academic year to have a straw man white paper on the themes and organization. Again, this would be iterative, so this is to define the large buckets into which we are going to be placing programs, priorities, and so on. This would be put out for wider faculty, faculty governance bodies, and leadership group discussions.

Obviously, you could have a million dinners and still never arrive at what the theme of the plan should be. The issue, then, is how we are going to tease out the discussion. What I would like to do is have these conversations around a set of questions. I am open to what these questions should be; these are just examples. I should also add that not every dinner is going to discuss every question. We may try to group people into areas of interest. As we continue to support and enhance interdisciplinary and translational work, what major intellectual disciplinary areas of excellence does Duke need to enhance? In what ways does interdisciplinary and translational work reform and enhance disciplinary innovation and excellence? These [are the] kinds of questions I am thinking about. I would be happy to circulate this, so all of you can get this list. People can submit other questions to me; I am happy to include those in this list. We are also going to flow these along with some questions to the departments, too. So when people from the steering committee come to talk, that will provide some guidance. How do we enhance the opportunities for undergraduates to deepen the quality of their Duke experience, ensuring that programming better enables students to integrate what they are learning? How do we get students out of their comfort zone, so it is not just a check-box mentality? There are a lot of things up for discussion.

I want to say one thing up front, especially since I am talking to the Arts and Sciences faculty. I do not want to create the impression that the provost’s office is planning to dictate the curriculum. That is not the point. What I am trying to do is tease out themes into which we would be able to invest. For instance, let’s say the strategic plan says we want to find ways to deepen the undergraduate educational experience. I am going to look to the schools and to you all as you craft the curriculum to help define what that would look like. It is just saying that we are going to be able to put resources into the groups that will be doing the defining. This is not so much dictating centrally how you follow the road map, but I think we have to define the general areas into which we are going to invest. For instance, because interdisciplinary was such a big theme in the last plan, obviously the funding of the signature institutes was a major chunk of the resources. That was an overarching theme to have these interdisciplinary entities etc.

How do we lower the barriers to cross-university collaboration and teaching? I have things I am interested in that I could see throwing out. For instance, big data is becoming so much a part of the research landscape, how do we ensure that can be utilized to permeate many of the disciplinary and interdisciplinary areas? When I talk to people about it, they say,
“You should put out guiding questions that reflect your own interest.” Again, I know what my interests are, and I am trying to tease out a conversation and try to get an idea of what the faculty interests are in terms of moving forward with this plan. As we come through this year, I hope we can define a group of themes. Then four or five faculty committees can help populate those themes in the same iterative way. I have a couple of things to say about this. We have to refine the concept, and in the next year, we need to detail the specific programs and plans, but this is a central piece: the budgeting.

Part of the problem in this pre-planning year is that I am only beginning to get the dimmest impression of what my resource envelope is going to be. I was talking with Tim Walsh about this, who is one of our chief financial people. I am hoping as we round the corner to next year that I will have a much better idea of what the resource envelope looks like. Second of all, I am conservative enough that I think as we enter the full planning [phase], we may want to wall off some money so that we have a minimal floor. In other words, it is great if investments keep growing and we winds up with more money than we thought, but it would be good to know, minimally, what we are working with. Bear in mind the fact that we inherited a lot of tail costs from completing the previous plan. To some extent, Duke forward is funding the previous plan. When you think of the total resources spent on academics that counts everything previous that is continuing. We are going to have a very different plan if I can put 25 million dollars on the table versus 200 million dollars.

As we go into the full year of planning, I want to have some idea of what the magnitude is, so people do not waste their time putting together complicated programs that there is no possible way we can afford. I think it is safe to say in the pre-planning year that it will be more than 10 million but less than 200 million. I think as we go into the full plan, we need to put programs down with dollars attached to them, and we will need to know a lot more. Obviously, you can have a plan but in the next five to eight years you would be implementing the plan and we will have to see what the framework looks like. That is the very broad scope. There will be lots of conversation and I am going to be upset if we get to the end of the first year and we still do not have themes. I think everyone has lots of great ideas, but I think it is going to be the job of the steering committee and also my job with the faculty chairs to take the masses of ideas we get and try to craft them into coherent buckets that people can work on going forward. That is the general idea, and I am happy to answer questions and talk about anything.

**Discussion**

Margaret Humphreys (History): I am sitting here dreaming of a performing arts center. We could build up our theatre program, and it is one place Duke could be much stronger. Where would we put? I thought about Central campus, and whatever happened to central campus? How does that fit in?

Sally Kornbluth: There was a plan for central campus, and then 2008...That is an interesting question, and there are building plans underway and an arts center is one possibility. There are things that will have to dovetail with the academic plans we make, but the kind of resource envelope I am imagining does not allow us to build buildings out of that money. There are other possible resources, and certainly if the plan were to evolve and this becomes a huge academic priority where we don’t have a facility to accommodate that plan, that’s a discussion we would have with the folks in development to see what we could bring forward. My interest here is to define programatically what we want and then think about the facilities we would need to satisfy those.

Michael Hardt (Literature): I did not understand what you meant by faculty chairs, do you mean departmental chairs?

Provost Sally Kornbluth: I was referencing the steering committee. The process of strategic planning is going to be driven by faculty who chair that committee. In other words, I am not chairing the steering committee. I am not going to every meeting. I will go to touch base, but I want there to be a true dialogue that is not driven by my priorities. I want to get good ideas out of this, so I do not want to come in with a pre-supposed discussion. There is going to be a big role for faculty who are chairing this committee and directing the discussion.

Karen Shapiro (AAAS): I was wondering how you see the interplay between the priorities from 2006 working with whatever comes out of this strategic planning process.

Provost Sally Kornbluth: Aside from the fact that we are carrying a lot of tail costs, a lot of time and effort has been put into building all of these things. I have no preconceived ideas that I want to cut any of them off at the knees. I want to make sure that part of our resource envelope is ensuring that the things that are working continue to move forward. I do not think the things that come out of this strategic plan have to be completely new and divorced from what we have done before. For instance, if one of the buckets is how we build our institutes and centers to greater heights, or if it is going to be drafting off of the previous plan, that is fine too. I would like to have some concrete ideas of what that looks like.

That is not to say things that are not working from the previous plan will not be sunsetted. We had one institute sunsetted this year, not because it was not working, but because it was mission accomplished. I do not want to be locked into thinking the landscape will look like it was defined in the last plan. It can evolve, but we are evolving from primates not RNA, which is a biologist’s interpretation. We are starting at a point already en route. I think that is part of it, but basically the idea is that we are going to riff off of what we are already doing.

Karen Shapiro (AAAS): How will one go about evaluating what is working and what is not?

Provost Sally Kornbluth: That is a very good question. We are externally evaluating institutes and centers; they are having reviews just like departments have reviews. It is rare to have an external review that does not have many good elements. The review that preceded the sunsetting of IGSP was glowing, but I think we have to use external reviews to figure out of those things are actually fulfilling our goals. It is a little bit circular, but that is part of the reason for having a plan. You can articulate what you are trying to get out of these things, and you can evaluate them with respect to goals. I
realize that is a sloppy answer. It is hard to say definitively what makes you continue one thing and stop another. At least coming in new, it seems to me we have never wrapped our arms around everything that is out there. It is hard to know what you want to stop and start when you do not have any idea what the huge landscape looks like. Keith and I have been talking about this in terms of accounting for all of the “innovative pedagogical approaches” now. Part of the goal in this planning process as we discuss all of these themes is to have people say they are doing this or that so we can get our hands around what it is we might want to continue or discontinue. It is a little daunting.  

Karen Shapiro (AAAS): Say you want to continue an old project; does that have to come out of this new budgetary envelope of between 10 and 200 million?  

Provost Sally Kornbluth: Yes and No  

Karin Shapiro (AAAS): That will help shape what one can innovate.  

Provost Sally Kornbluth: That is a little complicated, and I will try to answer without getting into the details of funding the university. The institutes and centers, for instance, there are line items for that in the budget from the original flow of funds. Ultimately, those funds are flowing from the same sources that our plan funds will be coming from. You can wall them off any way you like, and say this much is the old stuff and this much is the new stuff, after which you know what your new envelope is. In the end, it is a tradeoff because it is all coming from the same place.  

Steffen Bass (Physics): I want to pick up your theme of the resource envelope. We all dream that it is going to be big, but we all suspect that it is going to be very constrained. You made a comment about UPC being the instrument that tells you what the resource envelope is, or gives you some guidance. There is a way to maximize this resource envelope or create a bigger one. Unfortunately, that is a holy cow that no one at this university ever wants to touch, which is the reform of need-blind undergraduate financial aid. It has been running a huge deficit into what used to be the provost’s resource envelope for all of these nice new initiatives. I was wondering whether there is a plan to put that into an endowed form or make the new campaign fix that issue. What are your thoughts on tackling this big question? If we get that fixed, or under control, than your resource envelope could be a lot bigger.  

Provost Sally Kornbluth: If a donor came today and said, “I would love to endow financial aid” that would be fabulous, but unless I have a genie’s lamp that is probably not happening. I think this university has made a deep philosophical and ethical commitment to need-blind financial aid, and I share that perspective. I think it is a really important thing. Like anything else, it is a tradeoff [between] what you deliver to the population of students that you have here versus what you can promise to the legion of folks outside you might be able to bring in. I think the socioeconomic diversity and the role of the university in educating society are bedrock principles that are important enough to make that trade-off. Even a philanthropist who gives us that money is a trade-off. If they gave us 100 million dollars to hire faculty, I would use that and not worry about these other pots. There is a fixed universe of money, need-blind financial aid is a big piece, but from my perspective and the senior leadership perspective in general, it is a bedrock principle of the university that I do not see compromising in terms of the strategic plan.  

Steffen Bass (Physics): There are ways to try to fix this issue, surgically.  

Provost Sally Kornbluth: Unfortunately, all of the issues that can be fixed can always be fixed with more money. A bigger pot would certainly help matters; there is no question about that. We do not put our thumb on the scale in terms of admissions for very good reasons. In terms of delivering a rich educational experience to our students, that is as important as anything we are going to craft in a plan.  

Steffen Bass (Physics): So it is going to be a small resource envelope?  

Provost Sally Kornbluth: It will be a smaller resource envelope. There is a lot of talk going on what enhancements or not we want to make to aid packages. That is a fluid discussion, but I still think it is a core commitment of the university.  

Carol Apollonio (Slavic and Eurasian Studies): I love the focus on faculty input in this process. I want to make two recommendations that you may have thought of already. One is to include a broad spectrum of faculty, including junior faculty and instructors. Perhaps in addition to dinners or instead of them, we could have big events with coffee and donuts that could reach out even more.  

Provost Sally Kornbluth: I agree they should not all be at dinner time. Junior faculty in particular have said they have to be with their family and kids at home and they do not want to go out in the evening. One question is how effective a town hall arrangement is for these discussions. I think we can do some of those to see what works. The other point you made about all levels of faculty with POPs and instructors, I think is critical. If we can figure out a way to open it up so people can self-identify, but in inviting people through cross sectioning, we can include folks across all ranks. I think that is going to be important. That may not be reflective in the very small steering committee. I do not want to use up a lot of someone’s time who is coming up for tenure. Maybe we want to make the senior faculty carry some of the water, but I think the discussions should include faculty across the whole spectrum.  

Aimee Kwon (Asian and Middle Eastern Studies): Speaking about what we have inherited from the last strategic plan, I wondered if you could speak about DKU. I know there is a four or five year plan that we have been discussing over the last few years. I wonder if there is the possibility of an external review committee that will be part of this process or is it a done deal?  

Provost Sally Kornbluth: First of all, we are at the stage now where there are several masters programs and undergraduate study abroad students. Although there is a very extensive discussion about the curriculum, there is nothing like a four-year university yet. I think it is fair to say that there are going to be multiple checkpoints along the way. The way this is going to unfold is certainly not a done deal, there is going to be a lot of faculty consultation as to what the curriculum is.
going to look like, how things are going to be delivered, and so on. The other thing that is not clear yet is what the
financing of phase two is going to look like in terms of bringing in a full undergraduate population.

My perspective on this, having come in when the train had already left the station, is that the important thing for
us to bear in mind as a community is how the presence of DKU as part of our intellectual world enriches what is going on
at Duke. When we are starting to evaluate research centers that we might fund at DKU, I want to understand how the Duke
faculty that are participating in these research centers benefit. How is this benefitting their research programs back at
home? Similarly, if DKU is going to become a place where we can innovate pedagogically, what is that bringing back to
the campus? We saw that with Duke medical school and the flipped classroom things they were doing there that presaged
the stuff we were doing here. I know in the medical school that has been incorporated into the curriculum. That is an
isolated example, but how we can benefit from the experiences at DKU [is important]. Another thing is how we can use
DKU as a launching pad into Asia in general for faculty who have broader interests. This does not have to be racecar; we
are doing this in a very intentional, incremental, and thoughtful manner so this continues to be built in a way that Duke
faculty and Duke students can benefit from. We do not want to spend a huge resource envelope on something that does not
benefit the Duke campus at all. Philosophically, we will see how that plays out, but I think that is what the commitment is.

Thomas Robisheaux (History): Has the steering committee been appointed? Who might they be? There is a practical
reason I ask that because, as you know, one of the big things we are doing right now in Arts and Sciences is reviewing our
curriculum. There are some amazing ideas being talked about, and I wonder when we reach the point to say, “We want to
see some of these concepts for the future for our curriculum.” That is obviously going to be a big priority for faculty in Arts
and Sciences. Will there be moments, possibilities, or people we can communicate these priorities to?

Provost Sally Kornbluth: We are just starting to invite some people to be on the committee. I know at least one person
who has been invited that is on the curriculum committee, so there will be a direct feed in there. I think pretty soon we will
be announcing the whole package. I think it is going to be really important for that steering committee to get out among
groups. I cannot see any world in which they would not meet with the curriculum committee as one of the groups with
which they are going to have dialogues. It is going to be fairly intensive work for the folks who are participating in the
early stages to talk to as many people as possible. If people feel like their perspective is not being heard, I want to hear
about it and make sure the steering committee gets to those groups of faculty. Obviously, we cannot individually talk to
every single faculty member, but I want to get as broad a catchment as possible. At the end of the day, if you have five
buckets and you cannot see anything you are doing fitting into any of those buckets that would be surprising and
concerning.

Thomas Robisheaux (History): This is a follow up question. I am trying to imagine my department thinking about its own
future, so how does departmental input within Arts and Sciences work within this process?

Provost Sally Kornbluth: I am hoping that members of the steering committee will be fanning out and going to as many
departmental faculty meetings as possible.

Dean Laurie Patton: Also, this is a helpful clarifying question Sally and I have already begun a process making sure the
Arts and Sciences strategic planning process that I mentioned two meetings ago and the larger university planning process
is not duplicative but complementary. What we have begun to talk about in terms of designing our process and in
conversations with Sally is that Sally’s provostial questions are going to be circulated far and wide across the university,
but Arts and Sciences will also have a set of complementary questions that are specific to Arts and Sciences. That means
even though the bigger conversation will be at the university level, we will also have a smaller set of questions that will be
focused on where we want to go as a unit, as the center of the university, as the leading area of educational innovation in a
liberal arts college and an R1 university and so on. That is very important.

Secondly, because this is going to be the extra plan, meaning these will be the dinners where we are thinking about
Duke. Not to exhaust everybody, but to be coordinated we thought the best way to discuss those questions would be
through the regular venues of our very vibrant community life together. That means we will discuss them here, in the
committees of Arts and Sciences council, and in all of the departments and units. If you run a unit and you want those
questions discussed, we would love that. Then we will gather the specifically Arts and Sciences questions as part of our
regular routine business together. Sally has gotten the message loud and clear, and she will continue to make sure that it is
both complementary and distinct.

The only thing I want to say that is very encouraging to me already is that Sally has a great interest in
undergraduate education, but is also clear about the boundaries. What we can be looking for is not necessarily the
imposition of ideas but support financially in whatever size envelope we end up having for the kinds of ideas that bubble up
from Arts and Sciences. I have great confidence that will happen.

Provost Sally Kornbluth: Thank you, Laurie. I went to the curriculum committee and talked about some of my interests,
and I hope things feed in both directions but I am certainly not going to be dictating what to do with your curriculum. It
would be nice if that would dovetail with what is going on with the larger plan.

Thomas Robisheaux (History): Thank you very much for coming, that was very useful.

Decision Sciences Certificate Proposal

The next item on our agenda is a new certificate proposal. I know there are a couple of new representatives from units who
are part of the council for first time this fall and I would like to say a few brief words about proposals when they reach this
stage for the council to consider them. You may or may not be aware of it, but the proposals that come here, if they are
curriculum proposals, are often two to three years in the making. While you may be learning about it for the first time, the
faculty who have been putting it together, working on it, talking with staff members, and working across units have been working on this for quite some time.

When it reaches the curriculum committee, it begins a new stage. It is a very interactive back and forth process that involves all of the members of the committee. It means members of the faculty or colleagues who are wanting to create something new work closely with that committee. There is a lot of give and take; often proposals are not aware of the context of the curriculum in which the new proposal has to work such as some of the general education requirements that need to be taken into consideration. There are all kinds of questions, which takes about a year.

By the time a proposal comes to the executive committee, it has been polished quite a bit. I want to emphasize this to you because when we on the executive committee look at something, we are not there to second-guess our committee members; they have already worked very hard. Ours and the curriculum committee’s main purpose is to support our faculty colleagues. You may be a little weary with all of the curriculum initiatives, but I promise you there are other faculty members who are chomping at the bits to do something new. We want to support our colleagues because they are imagining new ways of engaging our students and enriching their educational experience.

We generally discuss a proposal that is as significant as this at least twice. You are off the hook; there will be no votes taken on this proposal. I will renew the discussion in December, and if you feel your questions, comments, suggestions, and amendments are taken care of, then we can begin voting. Do not feel any obligation to rush through your thinking now. I am aware that it is a busy time of the semester, and you need to hear from colleagues about how this proposal will work.

Having said all of that, let me welcome Scott deMarchi and Scott Huettel to council. Many of you know them in different capacities. Scott [deMarchi] is a colleague in political science who has worked hard in supporting lots of other faculty members on their curriculum proposals, and now he is at the center of putting one together. Scott Huettel is in psychology and neuroscience; you all know Scott’s boundless energy and he is now the chair of psychology and neuroscience. He has a full plate and still has time to create something new for our undergraduates. Let me introduce them, they will explain the certificate and its rationale, then we will hear from ECASC before throwing it open for a full discussion of the proposal.

Scott Huettel (Psychology and Neuroscience): This has had a long gestation; the first discussions were about four years ago right at the time Arts and Sciences decided they were going to put certificates on hold for a while. We have had an extensive development of this, but we now feel it is appropriate to come before this body. We are going to go pretty quickly through the why and how.

The why is perhaps a bit surprising. Historically, decision sciences has been a major area throughout the social sciences. It has been core to economics, sociology, psychology marketing, and many other areas. I want to show you one slide that came from a non-social science department that is currently rotating through the undergraduate neuroscience webpage. Craig Roberts had the undergraduate students text their interests about a year ago, and he collected them and made a wordle out of those texted interests. It has things like brain diseases and so forth, but you will notice the second largest word was “decision” and the fourth largest was “making.” The undergraduate neuroscience students are extraordinarily interested in how this [on slide] helps us make decisions.

There is another feature that is interesting to us, which has prompted our own personal conversations on the development of the major. There are now types of models that may be present or arise out of one discipline that are applied to another. Time series analysis comes from electrical engineering and economics is now applied to behavior in terms of the signals in our brains that push us toward decision. A concept in modelling that might have been within the province of one discipline is now in the province of many.

There are new techniques that our students have access to. It is entirely reasonable for one of our students right now to say for her senior thesis, she wants to put on a head-mounted eye tracker, have subjects go to Harris Teeter, look where they are looking, and see whether that predicts what they are going to buy. She can do that for a capstone project that is joint in psychology and markets and management. That sounds like science fiction to track decisions in real time with large data, but that is entirely possible with modern tools.

Finally, we have a lot of student interest. This is a student who graduated in 2010 [on the slide] who was interested in these sorts of phenomenon. What did she do? She crafted a Program II like many of our Duke students do. That worked great; she was a good student who did a great project. She is using what she learned here at Duke about decision sciences in the nonprofit world right now. However, she had no cohort around her. At the same time she was doing this, many other students were crafting Program II, making interdisciplinary majors, or taking a minor in one field and a major in another because they were interested in decision sciences. We had many students separately doing something similar without a cohort among them. One of our big goals in the certificate is to set it up so we have a cohort of students coming through.

Scott deMarchi (Political Science): We have been arguing for almost 15 years about how to get students out of their own departments and get best practice training. That may sound a little crazy, but our goal was to get students to be a little adventurous and get them to go to the place where the thing they wanted to study was best done. That turns out to be hard because students get trapped in their majors and they run out of time. If you look at the pre-requisites in most of the social sciences, to get to a point where you can do anything that is heavy into research is difficult.

What we did for the modelling side of this is to have a minimal set of pre-requisites that every student in the cohort would share that represented the low hanging fruit at Duke. We essentially wanted people to get to a point where they could do a little coding in computer science, know linear models in statistics, know enough neuroscience to understand
what the role of biology was in experimental practice, and know enough game theory in economics to participate in behavioral economics. Every student in the certificate is going to take hand-selected courses in each of these core contributing disciplines so they can talk to everyone else in the certificate.

This is a particular view of interdisciplinarity where we want everyone to be minimally competent in what we think of as the core skills in a particular kind of decision science. The individual courses you can read in the proposal; we have talked to all of the instructors who teach these courses and they are happy to play along and teach units that substantively overlap with what we want to do. That is the goal, which is a little weird compared with most of the things that happen here.

Finally, we want a pre-capstone class that is largely taught by faculty who are PIs of the program that contributes to their understanding of how to combine these primary skills into the study of human decision making. We have listed a few courses that meet this, one of which is Scott’s course on neuroscience, which is heavily influenced by economics. Another is a course we teach in my department that is half computational techniques and half game theory. The goal would be to have another course that follows the main methods training so they can see how things are combined in interesting ways. Lastly, this is not a certificate that is supposed to be a home in itself, so we are planning on sending people back to their home departments. The real goal of this is to have students be more thoughtful about the research and be able to ask questions in ways they would not otherwise be able to. This is not the final destination for the students. We hope they go back to their labs and home departments and do more interesting honors papers or lab work. That is the modeling side of this.

Thomas Robisheaux (History): We can throw open the floor for discussion, but first we need a motion from someone to approve the certificate in order to initiate discussion.

Steffen Bass (Physics): I move that the certificate be approved.

José María Rodríguez-García (Romance Studies): Seconded

Thomas Robisheaux (History): We can now discuss the motion. Are there any questions or comments?

Discussion

Dean Lee Baker: As you know, I am supportive of this and I think it is a great opportunity for our students that are interested in decision science. My question is a philosophical and pedagogical one that you could imagine in this context why I am asking this. Does this certificate accidentally reify game theory, cost-benefit analysis, and quantitative analysis of decisions and downplay the philosophical and ethical. You have ethics in there a couple of times, but the methods and foundations courses don’t include an ethics class, “Alternative decisions in different cultures,” or historical pieces that stretches people’s decisions in a way that isn’t just the pay-off, cost-benefit, or somehow modeling these things. It is really a philosophical question.

Scott Huettel (Psychology and Neuroscience): There are two answers; one is that this is not the whole of someone’s curriculum at Duke. The hope is that students would say “I am interested in cultural anthropology” and they would want to bring something new to this that would be complementary. The goal that we want to emphasize is that this is not the end point of their training; they would be going back to their major. I think that is a clear difference. We do not think this is the end product of a student who has done this and now they are stamped with decision science. This is expressly intended to allow them to take what they learn and apply it somewhere else. I could imagine we could introduce another course here, but I think it would dilute it a bit. One of the goals is to get a cohort of students coming through. If I were going to take an action from your question, I would introduce ethics more explicitly in the gateway and capstone courses or introduce other qualitative approaches and bring people who do qualitative methods into those classes.

Scott deMarchi (Political Science): I will give a slightly different answer. You were talking about the rational choice paradigm where a lot of models would be viewed as overly simplistic. The reason for the diversity of tools on the front end with the methods foundations is we want people to be able to build in algorithms they think are worth studying. My golden standard for whether or not a social science is working is how accurately and how well we can predict human decisions in the context we care about.

I work in bargaining theory, and we are trying to predict which government’s form PR systems. We are completely open-minded about the algorithms in our models. They are all quantitative models; I will be clear about that. This is obviously a quantitative-heavy certificate, but in terms of the actual algorithms and what constitutes utility for the participants in our models, it is loosey goosey; barn doors are open. They are doing a lot of things that are not traditional rational choice. Our standard is can we predict the coalitions that form in all of the countries in the world that have proportional representation systems, what are the coalitions that actually form after elections. We have found some crazy stuff, sometimes the economic model works, and the utility that you would think of with reflection is guiding behavior. Other times, really odd things are happening and we are happy to model that. That is partly why computer science and neuroscience round out what you would see in purely the data side or the game theory side.

Karen Shapiro (AAAS): I have a very similar question. I was wondering, when I read through your documents before coming to the meeting, how you chose what classes to have in this bundle. Why not look at a history class that looks at how people move decisions through congress at various points in time. How did you come to this particular set of courses and would there be room for something out of cultural anthropology or AAAS?

Scott Huettel (Psychology and Neuroscience): One of the challenges is that because decision sciences is spread across a lot of different places on campus, and the single heaviest representation includes the business school, which does not teach undergraduates, we are constrained by the courses that are out there. I do not see a certificate as something that is a fixed
set of courses once we get the first approval. If this sparks student interest, then as courses develop, I think we would all be committed to including additional courses. That being said, this is a quantitative oriented certificate. One idea might be that there is room for that, but that does not mean in these stages of the certificate we think the students should understand this as being the only way to do this or that there are not ethical consequences for applying a particular kind of approach. I do not think that is a reason to exclude those here, but at least with the courses that we have seen in the landscape and the thematic coherence of it, it is going to be a more quantitative certificate.

Dean Lee Baker: Duke has excellence in that and I think you are leveraging that.

Scott deMarchi (Political Science): We have had long discussions of what to include, and thinks like ethnography and ethics were certainly on the list. We are already pushing the limits of the certificate. In terms of the competence of the PIs, it is what it is. I have an ABD in European intellectual history. I see the quantitative side of decision sciences and social sciences as distinct from the qualitative side. I think it would be challenging to put those together in one certificate given the limits on time. That is not an answer that might please you, but I think that is the truth of it.

Mike Munger (Political Science): I have a hypothetical question for Dean Baker. If this were an ethics certificate, would you be saying, “Where’s the game theory course?” It seems to me that there is a major, and in addition to the major, you take a certificate. If someone had a political science major, I do not see how the other requirements would be reduced by having a certificate in addition. If this were a major, I think those objections would be valid, but the reason that we have certificates is to have a specialization. Decision sciences is a thing, and this is the thing that it is. If you go to other universities and you hear about decision science, this is what it would be. I think it is a fair question to ask whether we have a sufficient set of requirements in order to ensure that people confront the ethical difficulties that they have in making decisions in all sorts of settings. That is a question for the curriculum committee about majors, because decision sciences is a thing and this is the thing that it is.

Dean Lee Baker: Maybe my question was, if I could rephrase it, does the thing “decision sciences” accidentally reify the rational choice paradigm?

Mike Munger (Political Science): It intentionally reifies it.

Scott Huettel (Psychology and Neuroscience): Someone who works primarily in decision sciences would think about it as ratifying economics and other fields. The constant problem we have is that work from neuroscience challenges assumptions made in rational choice theory. The world is not as simple as rational choice theory claims. If this were lumped in within that, it would make my life so much easier.

Scott deMarchi (Political Science): I think you are right that we should include more of an ethics component in the introductory course because I had a TA who wrote me an e-mail asking if he could grade half of the class differently than the other to see what the results are in behavior. He was a third-year PhD student and was about to start on this program and thought he might inform me a day before he initiated it. I do not fully appreciate the level at which people are ignorant, so on the curricular side if ethics were in the gateway and the capstone I think we need to think about that.

Carol Apollonio (Slavic and Eurasian Studies): I think I heard you say that you are distinguishing between quantitative and qualitative. This issue of leaving aside the qualitative part I find problematic whether or not it is just a certificate or a major to imply that ethics should not be a major part of decision making in spite of the fact that it may not be quantifiable. I am wondering if it is possible to suggest in the capstone, not just the introductory course, but the capstone where people are integrating all of this knowledge, requiring that there is some sort of ethical component. Whether that is taking material from a humanities course such as religion or philosophy and actually having students integrate that into their capstone.

Scott Huettel (Psychology and Neuroscience): There is a core theme across these questions and I am afraid that we are going on a path that is misreading what this is. There is a core modeling component and many students at Duke do work that is core research within disciplines. That means in the discipline they are going to have some goals and one of our goals is to help them more effectively reach the goals in the discipline. In the capstone it is expressly intended to be project based and group based. We want the students to be involved in cohorts and have group projects. Suppose their projects was something related to marketing; there is an ethical component to how you do marketing. There are practical and business components as well, but it would impossible to set up a marketing project without considering ethics. That would be a failure on the part of the instructor, not of the certificate. The structure of the certificate is set up to give them the skill set and those things should be carried along as part of the course work. I think a course in ethics is a different sort of animal than what we want to include in this. The idea I am trying to get across is that the certificate structure can accommodate this goal, but it accommodates it through the courses in an integrative way through the introduction and capstone. For example, it would be strange to say I want to do a neuroscience course and incorporate ethics. We have that course, it is neuroethics and it is a different course for a different purpose. Students could take that, but it would not be the same purpose of the course that is plugged in here.

Ed Iverson (Statistical Science): I have a more narrowly focused question on the foundations courses. Under the one applied stats class that is listed as an option is a regression class. We also have a decision science class, so what is the thinking about…

Scott deMarchi (Political Science): I talked to Elise about this. One reason we did not include it is the introductory course is on the syllabi of people that have taught it, it has larger requirements. The material is taught at a somewhat higher level than 210 has been historically. Another reason is that it was listed as consent of the instructor only, and it is difficult to require a course that has a rider on registration. That has been changed, so as a friendly amendment we are going to include 340 as an option. That has been clarified, but I did not realize because I looked it up as a course that would naturally be
there and the consent of the instructor was for the linear algebra, which turns out not to be necessary. That was the issue, so that is my slip up.

**Dean Lee Baker:** Let me re-frame my original question. I was more criticizing rational choice paradigm not this certificate.

**Scott deMarchi (Political Science):** These divisions may seem like molehills from your perspective, but when you are heading in the direction of more biologically and computationally inspired [courses] the barn doors are open in terms of the algorithms you can use and how you can model utility. Things can get significantly more interesting than you might expect.

**Jonathan Mattingly (Mathematics):** I wanted to understand something you showed on the slides about the static process barriers to the decision making process, I was noticing you do not have any static process courses listed. Is that inside the document?

**Scott deMarchi (Political Science):** If you look at the level of pre-reqs to get to that, it would be onerous enough that our certificate would have no students. The courses that are in the primary category, they have a second semester calculus requirement, a probability requirement, and that is it. Anything in that second category....

**Jonathan Mattingly (Mathematics):** Static process would have the same pre-requisites

**Scott deMarchi (Political Science):** It doesn’t have multi-variable as well? We can talk about that.

**Thomas Robisheaux (History):** Thank you Scott, Colleagues, take this home and think about it, review it, you have the document on the Sakai site, and you can download it from the resource folder. Am I correct Lee Baker that it is a rare certificate that prepares students to go back to their majors?

**Dean Lee Baker:** It is well integrated

### Bylaw Revisions

**Thomas Robisheaux (History):** I am glad to have the last bit of the council meeting to return to our year-long project of reviewing and updating the council bylaws. I want to refresh your memories for those who may not have been here or who need to have their memories refreshed, which is that ECASC has decided to divide this process into three parts. The first part that we are dealing with involves the relationships of Arts and Sciences council and its various faculty committees to other schools, offices and titles in the university, some of which no longer exist except in our out-of-date bylaws. Just to refresh your memories about why these ten proposals that ECASC is putting before you are important. I just want to point out three things for you.

One is these revisions replace titles that no longer exist with ones that currently do exist. This is boring clerical work. One the other hand it clarifies reporting and consulting relationships and makes those practical when new people come and go into positions.

Second of all, it weaves into the Arts and Sciences council and its committees a relationship with the vice provost for undergraduate education. I will point out to you that [as a result] the discussion of these revisions that integrate Steve Nowicki’s office into Arts and Sciences council in a more open way we are seeing the fruits of this. ECASC has already had a discussion with Steve about establishing a regular faculty review and approval process for some of the new initiatives that come out involving undergraduate education at the provostial level. For example, in regards to Duke immerse, ECASC has already started talking about a way to make that a part of our regular faculty committee responsibilities.

Finally, these proposed revisions clarify the relationship of Arts and Sciences council to other schools, the university institutes, and some offices regarding the leading role that Arts and Sciences council plays in its responsibility for undergraduate education at Duke. Just to make this clear for many of you, one of the largest majors in all of Arts and Sciences is in public policy, but that is part of another school. We have a big impact on Sanford and the Nicholas school, so we have to be mindful of this responsibility. We work closely and collaboratively with the engineering school as well because our change in general education requirements has an impact on engineering. I want to make clear how important in practice you are as representatives of Arts and Sciences council.

You have the document before you and I have excerpts of all of the revisions on the slides. In our last meeting, we went through the first four proposed revisions; that leaves six more in phase one. You can review those, but I am going to start with revision number five, which is where we left off in October. This deals with the executive committee of the Arts and Sciences, and this is an important change in the language that specifies the responsibilities of the executive committee of the council. Let me remind you that you as representatives elect colleagues who are also representatives onto the executive committee. The executive committee is responsible for setting the agenda of the council, among other things. This directly affects the importance and functions of the executive committee.

The current bylaw is on the slide, but let me you are your attention to the change in one sentence that we are proposing. This is the operative change, so let me read this sentence aloud so you can recognize the importance. “The Executive Committee shall review and assess undergraduate policy and program proposals of the Dean of Arts & Sciences, the Dean of Academic Affairs of Trinity College, the DVPUE, and other relevant administrators and faculty.” Essentially, the executive committee becomes a place where we decide how to review undergraduate program initiatives that do not originate specifically within the committees and departments within Arts and Sciences.

Let me give you an example, which comes from a discussion on the executive committee from a couple of weeks ago. The Duke immerse program, as you know, is run out of Steve Nowicki’s office. It is immensely creative and a number of faculty have taken part in it and found it very stimulating, but there is currently no faculty review process for these pilot projects. This language changes that. It means that ECASC will have conversations with Steve’s office about any ongoing initiatives at the provostial level that impact Arts and Sciences undergraduate education in general. Had we been able to
integrate that in a more regular way into the umbrella of concerns for Arts and Sciences, we might have avoided some friction in the past. In the spirit of all of these proposals, we are trying to capture best practices for the institution right now so we can have regular communications where they need to be. Are there any comments or questions that you might have about this? I would say it is a significant change from what we had, and it integrates that office into the Arts and Sciences council.

David Malone (Education): I have a question about, “The Executive Committee shall review and assess undergraduate policy and program proposals of the Dean of Arts & Sciences.” That seems all encompassing. Let’s say Dean Baker makes a proposal to go to a four-year dean model. In a way, that is a policy or a change in our advising programs, but in the past you would not bring that to ECASC.

Dean Lee Baker: Because it is not curricular
David Malone (Education): Right. Are these policies and programs as they relate to the curriculum as opposed to undergraduate education?

Thomas Robisheaux (History): That is how I understand it.

David Malone (Education): I think it is a step in the right direction, but the language needs to be clear in terms of the types of policies and programs.

Dean Laurie Patton: That occurred to me as I was looking at this and when we were in the midst of it, it did not jump out at me. I do think it needs to be clarified that these are curricular.

Thomas Robisheaux (History): When it comes to the point where we want to consider any amendments to these proposed revisions, I will make a note for when we come back to this.

David Malone (Education): You could get someone to type “curricular” in there.

Thomas Robisheaux (History): “Undergraduate curricular policy…”

Karen Shapiro (AAAS): I was just wondering how the kind of review of Duke Immerse you suggested might take place. Would that be a decision by ECASC to say it is time for a review? The language is there to allow for that, but is there any meat on the bones to that broad sentiment?

Thomas Robisheaux (History): There is indeed, and Duke Immerse is a good example because it is at a point where it needs to have clear faculty review and approval of those proposals. Also, to make sure there are standards that are adhered to because right now there is no faculty committee review. I do not think ECASC pretends to have the expertise to review proposals like that, but we are going to try to figure out where the best place would be for that to happen. It might be that ECASC will task one of the standing committees or activate one of our sleeping committees, like the academic standards committee, to take that on as part of its regular charge.

Karen Shapiro (AAAS): My question then is who is initiating these reviews? Does Steve Nowicki ask or does ECASC decide? How are those decisions made?

Thomas Robisheaux (History): The language here is really important, and we have talked a lot about this because as this language suggests it is the executive committee who decides. “The executive committee shall review and assess…” The thing that is not said here is something that was talked about on the cutting room floor, which was that ECASC be responsible to the vice provost for undergraduate education. We talked long and hard about that and it is clear that Arts and Sciences council and the executive committee has a trinity college and dean of Arts and Sciences relationship that is primary. We are not going to make ECASC responsible to and report to the vice provost for undergraduate education. That is why this language is as it is. As it is worded right now, it is the members ECASC who may be interested in the new programs of the provost and say it is time to look at this. We can now ask Steve Nowicki or someone from his office to come fill us in. It clarifies that relationship without making Arts and Sciences council and its faculty committees reporting to a university level provostial office.

Dean Laurie Patton: Just another quick clarification; not only is that the case, but when there are undergraduate curricular innovations from the provost’s office they now have an accountability to ECASC. I hope that is something we are clear about. We want to change the idea that the provost can simply create curricular innovations without accountability to ECASC. That was an important dynamic that we wanted to move away from.

Owen Astrachan (Computer Science): I look at the amendments, and it says we can make amendments with a two-thirds vote of those members present. Suppose we made amendments that flew in the face of reality, and we all agreed on them, but the provost and deans do not. Where is the buy-in?

Thomas Robisheaux (History): There would not be. As our bylaws currently work there are the bylaws and there are the practices and customs right now. I try, as chair of the council, to adhere as closely to the bylaws as I can. You are right that we can do it. The buy-in with this is that Steve Nowicki has been at the table for three months with Lee Baker, Laurie Patton, and the members of the executive committee going through four or five iterations of that. Steve Nowicki has buy-in to this because he has needed faculty involvement, review, and approval for programs that he has been a part of. He has not had that before, and he sees the need.

Owen Astrachan (Computer Science): In circulating this to all of the faculty, which is required by this process, that might be a useful thing to have in terms of the support of the administration in addition to the support of this group. That way, we know it is not wishful thinking but rather a negotiation and a communicative process on the part of the groups involved.
Thomas Robisheaux (History): Any other comments? You can recognize the significance of this one sentence. I am reluctant go on to number six. I thank you for your attention and your patience. You stayed alert to the bitter end, and I appreciate it very much. I will see you again very soon, thank you.

Meeting Adjourned