Gathering Data

Methods and Approaches for Gathering Data

***As you put together a plan for gathering data what are some of your biggest priorities***

Marc Nicholas: One is to first know where my data is located Who are the players Or in this case faculty that are connected to this particular research question or objective right How can I best reach them When can I best reach them And once Im able to do that I have to ask questions about what is involved in this process And how can I with the resources that I have minimize the kind of work that these players will have to do in order to get this data to me And then you know trying to look at that list of faculty to look for people that I know people who Ive worked on grants with people who you know come to our workshops And so I may target them a little more heavily than people who are usually non-responsive or usually I know will delete my emails So you kind of plan for all of that and leverage your resources and then I think use the resources that have sometimes add discomfort to yourself to engage the population because they are busy individuals and very often do whatever they do voluntarily because of how our institutions are structured and so if we are to engage that good will and not go into a lot of fatigue from our stakeholders there Planning and asking these questions strategically I think is important

Soumi Basu: My biggest priorities for gathering data is connecting with students to see what are the dreams What do they want to do What interests them Even if I think it is you know impractical I think thats one place I need to start The other place I want to start is to look at professional organizations in various fields So Ill give you the example of manufacturing since thats my background So in manufacturing there are organizations such as the Society of Manufacturing Engineers Going to meetings where you meet people who are experienced in the field gives you an idea of what is important today so these two places are sort of the low-hanging fruit for me

***What are some of the best approaches to gathering data you have seen at your own institution or other institutions***

Marc Nicholas: I think when I started off years ago it was paper We would you know go over to the faculty we would get first consent from the faculty to participate and then once they did we put on our calendars the day and the date and the time when this particular class was meeting when the faculty would collect these artifacts and wed try to go in at that point in time and say give me all the artifacts that youve collected and have an administrative assistant go straight to a copier and copy it and return it because oftentimes we need that data prior to grading so that it doesnt influence the reading process So faculty are keen to start grading right away students are keen to get their results and we are somehow standing between that process and so facilitating an ease and a quick response to faculty is very important So actually going to their classes picking their stuff up making copies returning it to them helps you know in that data-collection process The other way that I have now started working is send people with a flash drive because very often people have them electronically So instead of going and collecting copies we run out with a flash drive plug it into someones computer download the artifacts the assignment prompt bring it right back to the office And as learning management systems catch on and more faculty get on board with that the working with the education technology offices too and the faculty involved to gain access to a particular assignment within a particular course and downloading the student assignments from there So I think at my institution currently I think about 50% of artifacts come in through that process Its very easy its seamless for faculty that are willing to engage it because they really do nothing to facilitate that transfer other than agree to do so I have to though preface that with a caveat that we do get consent from students prior to the semester or its usually embedded in the catalogue indicating that their work will be used for institutional assessment So its not like we are suddenly sabotaging a particular assignment from the curriculum So students are well-aware of that and so its just getting faculty permission to get into those spaces and I do know thats a little controversial for some faculty as to who are you giving access to into the course What would they have access to in the course And I dont think learning management system are advanced to the point where you can give access to a particular space to an individual coming in So I think probably timing that access you know so that person isnt you know like crawling through discussion boards and stuff like that So it is controversial and I think once faculty kind of see why we are going there and what were doing with the data you build that trust with them you know I think theyre more willing to engage you in that process So its one of the easiest ways to do it for both them and us and once its electronic if you use an electronic assessment management system its so much easier to upload into your new system for the assessment process So those are new ways in which weve opened up that data collection process in the recent past aided by technology You could do surveys to collect data which has its own set of intricacies and protocol that you would follow like you know like the kind of advertising you would do on campus to create awareness You know how do you alert them with an email putting it in on your learning management system alerts that come up when they log onto various portals in the university You know it opens a different set of questions so I think its determined by the nature of the data youre collecting and where that data is coming from whether its coming from faculty students or you know the courses

Soumi Basu: When were assessing a curriculum or the curriculum in a program what Ive found to be the most important thing is to be completely transparent and reflect the actual situation as it is without making any effort to embellish or alter to interpret the situation as it is Because if you do that you are reducing your changes of improving a situation What is not working Hey lets face it and accept that this is not working What works Lets look at it critically Does it really work or is it wishful thinking If it really does work great If it is wishful thinking we need to be more respectful of people who are shooting us down because its constructive feedback as far as I am concerned And it is hard work slow work but I believe we owe it to ourselves and to our students to do the work

***What are some of the biggest mistakes or roadblocks you have encountered or seen others encounter when gathering data***

Soumi Basu: The biggest roadblock I found was the rigidity in views of some industry people and some faculty Actually from what Ive found is rigidity in views seems to be more prevalent amongst faculty than amongst industry folk The industry people at least those that are medium-scale small-scale industry they have to be very agile because if theyre not you know their product wont sell They have to adapt to the market all the time and so they have to be a little more open-minded for their own survival Faculty there are some really open-minded really willing to you know listen to all sides of the argument and then there are some who will listen to you and then at the end of it all it will come back to you know what that faculty wants You know this is what I think is important And so after listening to everything Ive seen that kind of rigidity and I dont have the answer to how to address that Maybe somebody does

Marc Nicholas: One is you know like I said those variables that constantly pop their heads up through any data-gathering process is when faculty at the beginning of the semester probably agree to be a part of the process and then at the end so youre planning your sampling and stuff like that based on this commitment that you have from faculty and then by the end of the semester they decide they dont want to be part of the process right Or theres something that changed the way theyve seen it So depending upon the number of faculty that end up in that camp sometimes it could sabotage your data collection process I would say if you planned it well you know and that youve already got a curriculum where you know where things are coming from Other than your participants not wanting to be a part of it which is out of your control At least in my experience I think that the data collection process in terms of factors that you can control can be planned sufficiently But response rates on a survey cant be planned But you can do or orchestrate your resources in such a way to facilitate a successful response rate You know some of the things I talked about like identifying the kind of people you know where do they go to lunch or you know so you could place yourself in there at a lunch table and you have about ten faculty having lunch there and you could talk about your survey and you could say check your email because its going to come out Or you can talk to your administrators to create a buzz at the all-university meeting about the a particular faculty survey or student survey that youre sending out So I think those are things that if youre willing to engage with you can potentially set yourself up for success as with any data-collection process But knowing full-well that its only as good as the people who are willing to participate in there so I think thats the uncontrollable factor But of course I think if you dont plan to Ive seen people who collect data that is not matched with the research question that youre asking and that is a question of poor planning versus it being the process so often times youll find that faculty think oh I can ask a survey for anything or a department head who will think a survey will answer just about any question they have but matching the means of assessment with the method of assessment I think is important and so once youre thinking of that and you apply your data collection tool to sort of align with that you should be in great shape

***TYPO IN THE VIDEO: Do you have any policies procedures or mechanisms for storing the data you gather in ways that ensures it be accessed in the future***

Marc Nicholas: Some of the ways in which we store stuff was always in files file cabinets right And I had the privilege of working with the assessment director who was very methodical in the way we maintained So when I walked into that particular office on my first real assessment job there were these filed cabinets that were lined up that had file folders in different colors marked off with different objectives for a given year and so we could go back for several years and look at the kind of artifacts that were collected who were the professors that were involved what courses did we collect data from And so maintaining that I found if youre more than just a practitioner and researcher of this data can yield longitudinal data later that can go beyond just the tenure of one assessment director or one program chair So thats one way and now of course weve moved electronically where we maintain file structures which is a lot easier to do And so we maintain file structures the project that were working on the year we collected the data in but I think other than just the organization of data I think that going back to the data-collection process is to foresee or to kind of project what kind of information would I need from this data maybe three years from now or four years from now And even though it may not be relevant to the current context of the question youre asking to be able to collect that white data will allow you to say oh I wish we had this data from last year and youd always have it to go back and collect it And now when youre sort of doing that cross-sectional latitudinal longitudinal kind of analysis you dont have certain variables that are left out during the first years of analysis should you need to analyze them in SBSS later you can always pull that data even though you might not have used that data in a given year to answer a question So Ive found that process to be very helpful and as a researcher myself I always collect more data than I need for my current project And I find then that I can potentially publish maybe three or four papers from a data set because of that because you can look at it from multiple angles because you can parse the data in multiple ways to yield results from multiple questions Because you know I mean you could think of that data from your own individual perspective so the kind of questions you ask may only be limited to what you currently think about the data set or what the data set can yield And then you will probably take it to your assessment committee and theyll have a completely new perspective on the data You could take it to your administrators or your presidents cabinet and they may have a whole set of questions that need to be answered And so oftentimes your report is not final until youve taken it around you know on the road show And when they ask these questions that you have not considered its always important that you are able to go back and sort of massage the data so that you can get to where your stakeholders are interested in the data because that is the reason why they ask is because they are interested in the data If you want to engage them then you have to be able to go back and say hey you know you asked this question heres what the data says or heres you know what the data looks like in regard to that question

***Are there ever cases where you have used more than one different data source***

Marc Nicholas: I would say that its best practice to engage multiple data sources As with any research project triangulating your data sources allows you to make a better statement or draw a better conclusion or a more informed conclusion about the question that you answered versus just you know using one data point in order to state that But that said I would say that you have to be pragmatic when thinking about the data collection process because as much as we would like to have these grand research designs the kind of manpower that is available to you the kind of budgets that we work under should be factors in your analysis of planning data collection because you dont want to end up biting off more than you can chew But should we say that you know we had unlimited resources to do it then I would argue that its best to use multiple data sources Again informed by that question of whether we are asking a qualitative or quantitative question And if we want to know whether students are learning and why they are not learning

Soumi Basu: There are companies that make fans Convection fans that are used as heaters as well so heater and fan together You can buy these things in markets for I dont know anywhere from $50 to $200 you know big range in price So its a consumer market that is fairly mature right lots of items being sold everywhere I have worked with a colleague in a company that manufactures such fans and the interesting thing here is this colleague was a teacher and also an industry consultant so dual role So when you look at how to make a relevant curriculum that focuses not only on the interests of the students but also on what the industry needs here is an example where I could see this teacher if you talk to her she will tell you very clearly In industry these are the things we need We need the student to know what type of materials to use to make this part What are the manufacturing processes that will drive the cost down What do we need to do to ensure high safety So in any design in the course that you create in your curriculum if you can show that these topics are being addressed thats a good thing And you go to the student and you talk to the student about what is interesting and important to the student the student might say well you know I would like to use CAD and I would like to make this three-dimensional model and simulate what is going on in the thing so here is an example in which if you marry these two points of view the industry person may not necessarily tell you that simulation and all that because yes they do it but they dont do it – they dont do it in-house But if you can incorporate both of these into your design curriculum now this student can go out and not only get employment in that industry but the student could potentially start something on their own because they know how to do the research they know how to they know how to use all the tools to make a high-quality product thats all So I think it can enrich a curriculum by using more than one data source from two different points of view especially