



**MACQUARIE**  
University

*Transcript of recorded interview: Frances Chang talking with Agnes Bosanquet  
(April 2024)*

Agnes Bosanquet: Thank you for agreeing to talk with me today, Frances. My first question for you is what is entrepreneurship education?

Frances Chang: Thanks so much for having me and inviting me to your podcast session, Agnes. It's good to be here. So, entrepreneurship education, well, this has grown by leaps and bounds since Harvard Business School delivered their first entrepreneurship education in – would you believe it – in 1947. This growth recognises that tertiary-led entrepreneurship education provides tremendous opportunities for student outcomes, such as knowing how to start their own business venture and considering it as a viable vocation, or sometimes simply acquiring venture creation skills, knowledge and attitudes. This benefits not just students and individuals, but society and community as a whole. Why? Because new ventures contribute to jobs creation, and therefore to economic growth.

So what exactly is entrepreneurship education? Basically, it is any pedagogical program or process of education to develop skills, knowledge, attitudes and personal qualities to encourage students to pursue setting up novel business ventures as a viable career option.

Agnes Bosanquet: I hadn't realised that it was delivered as early as 1947.

Frances Chang: Yes, there you go.

Agnes Bosanquet: Now one of the things that we had talked about in relation to entrepreneurship education was that you said that you wanted to develop an entrepreneurial mindset in your students. Can you talk me through that?

Frances Chang: Oh yes, of course. This is really very interesting. It is a topic that has, you know, really good recency and relevance. Research defines entrepreneurial mindset as a cognitive perspective that enables an individual to recognise opportunities and, importantly, to create value by acting on those opportunities to embrace ambiguities, make decisions with limited information, and remaining adaptable and resilient in complex condition. So I take some guide from MIT Sloan Management Schools. They define the characteristics of an entrepreneurial mindset as being (a) solutions oriented, (b) adaptable and (c) anti fragile. So first on being solutions oriented - now most people, when confronted with problems, will go, oh my gosh, oh dear, another problem. But someone with an entrepreneurial mindset is likely to go, oh wow, let me have a go at fixing this

problem. This is challenging but interesting. And guess what? Creative solutions do not just fix the problem, but very often have high chance of adding value, and the chance that that solution might lead to a viable business venture.

There are many examples of this, Agnes, and one of my favourite examples in popular media as well as published research, one of my favourite examples is that of Drew Houston, founder of Dropbox. He was on a bus from Boston to New York on his way to meet investors when he realised that he left his USB in his office and he went, 'how silly is this? Why do I have to carry my data with me all the time? So annoying, so inefficient'. And then while on the bus, Drew started coding his new business, that of cloud storage, His solution being that one should be able to access one's data anywhere in the world. All you need is access to Internet and you can access all your data online. So there we go – online storage on the cloud and Dropbox.

The second characteristic of adaptability. This basically means that the environment from which we operate is constantly changing. It's dynamic, so we ourselves cannot be static. Our creativity, our solutions, our business venture must be able to adapt and we, as entrepreneurs, need to be able to adapt in order to survive, and indeed in order to thrive. The third characteristics of being anti fragile. This might sound negative, but it is actually a positive trait. It means that entrepreneurs tend to be confident, resilient and even tenacious when confronted with problems. Have you ever met anyone, Agnes, who can't sleep because they haven't solved that problem? It's like problems are here for us to solve and in solving them we add value to what we do. So, indeed, developing an entrepreneurial mindset is very much a key outcome of an entrepreneurship education.

Agnes Bosanquet: Frances, it sounds to me like something that would be appealing to students if they're concerned about the economic outlook and the possibility of jobs in the areas they're interested in, or indeed the sorts of employment outcomes they're looking for. What do you hear from students about why they're studying entrepreneurship education?

Frances Chang: That is a fantastic point, Agnes, and I really want to highlight this in the sense that, you know, we have a lot of students from other faculty. Biotechnology, for example, in our own university, Arts, for example, Science, for example. When I get these students who are outside the Business School, I always ask them, hey, why are you here? And typically the answers I get would be, well, I don't know, I need to look at what am I going to do when I graduate, and I fear that there might not be a lot of jobs around. All right, so I have Science students, Technology students, telling me things like, I want to start my my own lab, for example, and I don't know how to, so I'm here to learn. Students from the Arts faculty will tell me things like, you know what? I really want to learn how to start my

own choreography company, and I have no idea how to start, so I'm hoping this unit will teach me how.

Back to why the students study it - what skills are developed? Right, so from my experience teaching both undergrad and postgrad entrepreneurship, my observations mirror very much published research on this topic. Students taking entrepreneurship education might have entrepreneurial intention, i.e. they want to start their own business for various reasons, one of which is to be their own boss and be in charge of their own destiny. Some indeed might study entrepreneurship as they picture themselves as the next Elon Musk from Tesla, Mark Zuckerberg from Facebook, or even our own Australian Melissa Perkins, who co-founded Canva. There are also others who are not sure what entrepreneurship is all about and want to find out. So these are all admirable intentions and all are welcome indeed to study entrepreneurship in our in our faculty.

We first look at the big picture, right? The big picture, if you like, in terms of entrepreneurs. Entrepreneurs need to have 1) know-why 2) know what and 3) know how 4) is know who and 5) is know when to start their own entrepreneurial venture, right?

So what do we mean when we say know-why? Why to really appreciate and be true to their self in terms of the values and motivation of starting their own new venture? Know what basically means the knowledge that they need to start their own venture - so basically what needs to be done. Know how covers practical abilities and skills, and know who really is an awareness of social networks, and this is very important and many people tend to forget this. So being aware of your social networks and the ability to use those networks as resource opportunities. And the last point on know when – so basically means the experience and intuition about when to take action.

So as students continue on their on their entrepreneurship education journey, they learn different skills at different stages. So at the start, skills will involve creative problem solving, scanning the environment for opportunities and critical thinking. Then moving on to business skills such as how to do a feasibility analysis of their business idea. This is really important, right? Because they have to know right from the start and be confident that it adds value in terms of wealth and in terms of social good possibly. And then they move on to having that ability to craft and adopt the right business model for their business idea when they launch it. Then we move on to writing a startup business plan and how to pitch their business idea to investors. So although these might seem simple, different skill sets are required at different stages as one as entrepreneurs progress on their entrepreneurial journey. So these skills help to develop an entrepreneurial mindset where

there is an inclination or bias towards creative problem solving, opportunity seeking, and importantly, acting on opportunities to create value.

Agnes Bosanquet: I really like that five part framework you have for articulating the knowledge you want students to acquire. Why, what, how, who and when? I'm interested in getting a bit of insight behind the scenes of how you teach and assess entrepreneurship because as someone outside the discipline that sounds quite complex to me.

Frances Chang: Yes, indeed. In fact, Agnes, very often people ask me, can you educate someone to be an entrepreneur? Can you really teach people how to be entrepreneurs? Now, numerous research indicate that entrepreneurship skills and knowledge can be learned, and if it can be learned, then it can be taught. There are understandably different pedagogical content and approaches in developing or delivering in entrepreneurship education. I tend to adopt a more entrepreneurial learning approach in my classes. This is essentially an adaptation of an experiential learning approach. So yes, lecture content, theories and concepts are important as these provide the knowledge and skill sets, but really importantly entrepreneurial learning is about doing, immersing oneself in the entrepreneurial space.

First I use several actual case studies of entrepreneurs and their startups and that is where we look at different personalities and motivation of real entrepreneurs. What went well or what went not so well with their business venture? Then we look at videos of unsuccessful and not so successful entrepreneurs pitching to investors such as Dragon Dan and Shark Tank, and from these students learn what to do and what not to do when they pitch for funding. Students are then assessed on case study analysis, the startup business plan and the pitch presentation. Even though these are assessments, seriously, I find that students do have a lot of fun especially when doing their pitch presentations. I suspect because there's a high competitive nature about these students.

Agnes Bosanquet: It also sounds like there's a creative and sort of gamified approach to that, when you think about something like Shark Tank.

Frances Chang: Yes

Agnes Bosanquet: I was thinking, though, is it the case that students come into your units with an idea already? You know, that's something I think would be difficult, you know, having an idea that you think this is what I would like to pitch about. How do you encourage students to look for opportunities?

Frances Chang: Wow, that's really interesting. And you know, we do a lot of this, Agnes. In fact we do a lot of interactive activities in our class. For starters, even in Week 1, when

students come in, I challenge them with the following questions. What frustrates you most when you try to buy something? Or what product or service would really make your life better? The third one could be what makes you annoyed or angry? And then of course the fourth one could be: what product or service would take away your aggravation? So, believe me, these typically create tons of responses from the students. They're all only too happy to share their frustrations, if you like, and really having frustration is a good start because that's when you start to think 'I need to solve this problem' right? Some of their frustrations typically will include things like late trains, late buses, bad service, and even irritating packaging. Alright, then they share that frustration. I put them in groups and the whole idea is they need to brainstorm potential solutions to those frustrations. And many a time in real life, that's how we start. People complain a lot about late buses, so now we have an app that shows us while we're standing there at the bus stop, okay, it's just another 5 minutes wait. Or, oh dear, it's another 20 minutes wait and so forth. Right.

And then the next thing is I get them to look around and do an environmental scan. Right, sometimes it's not all about problems and frustrations, but really looking around and seeing what needs fixing in our society, in our community. It could be things like, you know, if I try and remember the popular things that students talk about is youth unemployment. Homelessness, and so forth. So again, putting them into groups, brainstorming those ideas and that's how we go about it.

And I always like to finish with the students and I say: share with the class the whackiest business idea that you have. It's really generate a lot of laughter and I can tell you it really generates a lot of whacky, whacky ideas. Yeah. All right. The first the thing that always comes to my mind is this student coming out and say, 'do you know what? We should be making use of dog poo that we pick up from everywhere and try and turn that into something that is edible for consumers? It's got lots of proteins and and so forth. There you go. That's one of them.

Agnes Bosanquet: [Laughs] One of the things that you talked about was sharing examples with students about what doesn't work. I'm interested in how you talk with students about the idea of failure. I think this is particularly in the context of university study, where obviously failure when you're being assessed is a dirty word. So I wonder how you get students thinking about failure in entrepreneurship education?

Frances Chang: Yeah. So this is where we all, you know, kind of get down to reality, don't we? So really, Agnes, in the entrepreneurial space and this has been written about so much in popular media as well as research. Failure is indeed a sexy word or failure is the steppingstone to success. We learn so much more from our failures than from our successes. Indeed, many investors, one of the first questions they ask entrepreneurs

pitching for funds is 'have you started a business before?' And if the response is 'yes, I have. But unfortunately I have failed.' That's alright. Investors do like hearing things like this because once you have failed then you basically know what not to do or really what to do, whereas if you have not done this before, you have not failed before, then funding a business venture can be a little bit more risky.

As I said, we learn much more from our failures than our success. Take, for example, Colonel Sanders – his delicious KFC recipe was rejected over 1000 times. He had over 1000 rejections. Yet he didn't quit. He knew he had a successful idea on his hands. And finally, Sanders made his first sale in 1952 to a restaurateur in Salt Lake City in Utah. I know 1952 is a long, long, long time away, but students like to hear this because KFC is kind of all around them, so it has relevance. Another favourite example that I have is J. K. Rowling, right, renowned author of Harry Potter books, Harry Potter stories. Her first book on Harry Potter was rejected by no less than 12 publishers. It was finally accepted by Christopher Little, an obscure London literary agent. In 1996, Mr Little agreed to publish just 500 copies of J. K. Rowling's first book because, he said, it is too risky. I'm not sure if people want to hear Harry Potter's story. All right, 500 copies. But since then, of course, well, the rest is history, right? So there are many examples of startup failures, product failures, and those who are persistent and resilient will indeed see success.

Your next question: how do we relate this idea of failure in the context of university assessment? Well, the way we deliver entrepreneurship education pedagogy to our students and the way we assess their learning, shows a strong focus on an experiential learning approach, and that is learning by doing, constructing meaning by interacting with others, and exploring creative solutions. Look, from my 10 years or so teaching both undergrad and postgrad entrepreneurship classes, students who fail tend to be those who do not attend classes, right? They're not involved, they don't interact with their classmates and, importantly, they don't submit all their assessments, right, for whatever reasons. So my message is: attend classes, right? And that's not enough. You need to interact with your classmates, share ideas, collaborate, and just bounce around ideas, help each other, because that's what you will be doing when you go out and work, and when you go out and launch your own business. And then the third point is: please submit all your assessments. I mean ALL your assessment, not some assessments, and hoping that you can pass, but all your assessments because doing so will increase your chance of passing and getting good marks in your entrepreneurship education and importantly position themselves well to start their own new business venture. Does that make sense?

Agnes Bosanquet: Absolutely. So something I'm interested in is the lessons for teachers in other disciplines from the way in which you approach entrepreneurship education. What

I'm hearing from you is that you have a particular pedagogical approach which is experiential learning, but you have adapted it to align with the knowledge and skills you want to develop in your discipline. Is that something that you think is a lesson for other teachers in different disciplines?

Frances Chang: I actually, I am beginning to see many of these happening, Agnes, and even with other departments in other faculties. Science, for example, Medicine, for example, you really can't just teach. Students have to learn by doing. I mean you can't give them a handbook and say, well, this is the way you do injections, right? Step One, step two, step three. And even after that, the students have to physically do it. So that's that's really an experiential approach right? Doing, learning by doing.

Agnes Bosanquet: Thank you, Frances. It sounds like your students have a lot of fun in your class. What do you think is the thing they find most valuable?

Frances Chang: I think really encouraging them to always work as a group. Share your ideas. Don't just sit there and work by yourself. And in the first week or so, possibly even up to the second and third week, it's not easy because students tend to be a little bit shy. And students tend to kind of think, well, if I can just read a lot, I'll be fine. But in an entrepreneurship class reading a lot is just not enough. You've got to talk to people, you've got to sound out ideas, and you've got to really be prepared to share. I think that by week 4, Week 5 when you know they get into what I call a start-up team then they get used to it.

Agnes Bosanquet: I think the other thing you showed is that having an easy way in with students. So when you were first talking, I thought, well, I wouldn't really describe myself as someone with an entrepreneurial mindset. But then you said your questions are, you know, what frustrates you or makes you angry? And I thought oh I could answer those questions. I think it's that finding ways into that discussion with students that get some thinking. I can find ways of thinking through these things that annoy me.

Frances Chang: Yes. Oh absolutely Agnes. In fact, one of the first question I ask them is: Who among you think you are not creative? And seriously, in the first week, a lot of hands will go up. All right? Why? Because basically, people think that, well, I'm not creative because I don't know how to dance. I can't sing. I can't draw. I can't do art. I'm not creative. So my message to them is we are all creative in our own way. Creativity means learning to solve problems, coming up with new solutions to solve old problems, and having this mindset of seeking opportunity. Some of the examples I give them is, you know, you might be looking at your grandmother or an elderly aunt really struggling to open their medicine bottle or whatever. Right, now, you need to think about, well, there are a lot of us, we're heading towards an ageing society. How can I make that easier? For the elderly or for

people who have arthritic fingers, for example, to make it easy for them. And that's how people start thinking. After week five, I always tell them so from now onwards, folks, nobody must think of themselves as not creative.

Agnes Bosanquet: I think that's a great note to end on, Frances, that everyone is creative and can be creative. Thank you so much for talking with me today.

Frances Chang: Thank you, Agnes. Thanks for this opportunity to join your podcast. Have a lovely day.