A Student's Guide to Coursework Projects

by

Johann Packendorff, PhD

School of Industrial Engineering and Management, KTH Royal Institute of Technology, Stockholm, Sweden

Dear student,

Once again, you are sitting in that uncomfortable seat in the lecture hall. New course, new teacher, new power point slides, same old coffee. Some well-known friends around you, but also some new faces, all pale under the fluorescent floodlights. The teacher explains what the course is about and what he/she expects you to do to get your grades in the end. Not surprisingly, there is a project in the course. A group-based, complex undertaking, in which you are supposed to deliver a report, a presentation, a prototype – or something like that.

Since you have barely recovered from the project in the last course, where you worked day and night in order to meet the deadline and had a fallout with two of your best friends, this isn't very good news. What miseries are in store for you this time? Yet another embarrassing final presentation in class where you understand that you have missed the whole point with the project? Yet another group meeting where you realise that your level of ambition is far from shared with the others?

I have good news for you. With just a few minor adjustments of your way of approaching the task and handling the internal group dynamics, you will actually be quite well off in the end. Here is what to do:

Form a professional team

Most people tend to cherish the memories of their study years for the rest of their lives, not so much because of the course contents but rather because of all the friends and fun. No problem with that, of course. But I would encourage you to approach your studies in a professional manner. That is, making the most of the time and money you invest in order to prepare yourself for decades of work — as a professional. Think of the first meeting as a starting point of a process where a number of smart and able people will deliver something astonishing together and learn from it. Some recommendations:

- Arrange a process to discuss your individual levels of ambition. Are you in the course to deliver average or excellent results? Be honest.
 Do not forget that excellent results always require a lot of work – will you be able to allocate the hours needed. Again, honesty is better than wishful thinking.
- If you understand that the team members disagree on the level of ambition, consider disbanding the team and regroup.

- If the team agrees on the level of ambition, agree also to be honest and constructive to each other, to keep the others informed about your individual situations and your individual work tasks throughout the project.
- You are all responsible for the team culture. What you say, and how you say it, matters. Don't be macho. Don't exclude parts of the team just because they are new to you or different from you. Cultivate professional relations, so that you all trust each other. Put words on the team culture. Write them down together.
- We are all unique individuals who bring different abilities, competencies and personalities into teamwork. Some are idea generators, some are coordinators, some are negotiators, some excel in setting a positive work climate. Teams where everybody are similar tend to perform worse. Embrace differences and make the most out of them. For example by letting the coordinator act as project manager and having the negotiator to make contact with external companies.
- Agree also that the most crucial thing to be honest about is when delays, mistakes and failures occur. That requires trust and confidence in each other. Leave your sense of prestige at the soccer field or in the scrabble tournament dungeon. The sooner everyone can attend to a problem and help each other out, the smaller is the risk for a failing project!
- Provide feedback to each other all the time. But remember that professional feedback is something else that just voicing your opinion and sentiments about others. Ask yourself what you can say that enable the others to improve and become even more motivated. Refrain from complaining, blaming and shaming even when justified, it only makes matters worse. Is your feedback necessary? Is it kind?

'Being professional' may sound a bit pretentious and boring, yes. But it is essentially about being honest, appreciative and supportive to your fellow team members. When a number of professionals are successful together, they often tend to end up as friends. And they will work together again, as soon as possible.

Understand the reason for the project

There is always a reason why there is a project in a course. And that reason is never that the teacher just wants to keep you busy. The reason is that the teacher wants you and your team members to do something in order to learn - that is, to gain new insights and abilities by analysing, practicing and delivering something. All this is usually well described in the course syllabus and linked to explicit learning outcomes. The learning outcomes for a project task define the intended effect of the completed work on your insights and abilities, so they should be imperative for you and the team to read and understand. When you know what you are supposed to learn, then you can focus on making sure that it is learnt. After all, the learning outcomes are what the teacher use as a basis for formulating grading criteria and evaluating your performance!

Identify what is the expected delivery

A delivery is made when someone has received the right thing at the right place at the right time. This may sound quite simplistic, but quite often I have seen very ambitious project teams running into difficulties in the end because of not having attended to all aspects of a successful delivery. This entails:

- Delivering the right thing. Usually this is clearly spelled out by the teacher both orally and in writing. Often including specifications on file format, formatting, intended audience, structure, referencing systems and so on and so forth. Stick to these instructions. Don't assume they can 'be fixed' in a few last minutes.
- Delivering to the right place: This is usually also well identified from the start. If the report is to be placed in a certain discussion thread at the course homepage, make sure it appears there and nowhere else. Simple as that.
- Delivering at the right time: Yes, projects come with deadlines. But the well-known "student syndrome" i.e. the inclination to procrastinate, postpone and hand in the deliverable as late as possible often creates problems. Most of us are under pressure from ourselves and from our social environment and ending up in a swarm of imminent deadlines exacerbates that. Being on time is an act of kindness to yourself and others!
- Ensuring that it has been received: The last-minute submitters often run into technical problems of various kinds. In every course I teach, there are always several submissions that are simply not registered by the learning management system sometimes because the system is overloaded during the final hour, sometimes because the submitter has simply gone to bed, exhausted, instead of bothering to linger by the laptop for a few more minutes to make sure everything is OK. Check, check again, ask your teacher.

Plan backwards from the deadline

In addition to ensuring that the final delivery is made in good order, you should also devise a project plan to make sure you have the necessary time for all other things that have to be completed in the final stages of the project. The overall quality of an academic paper often rests in the later parts, in discussion, analysis and conclusions sections. Still, these sections are often written hastily, because the preceding ones have consumed all time available. What you should do is:

- Identify the official deadline i.e. the last possible time for delivery
- Set an internal deadline in the team, i.e. the time where the outcome of the project shall be ready for delivery. Preferably no less than a day before the official deadline so that last-minute problems can be sorted out in good order. Such time buffers can be inserted also at earlier stages in the project plan.
- Break down the task into components or activities. Think of every activity as a delivery in itself; a work episode that shall result in something that can be used for the completion of the project by the team. If what is going to happen in a certain activity is the authoring of a conclusions section, then you should frame that activity as "conclusions section ready and delivered to my team".
- Search for parallelities. If the project task allows team members to work on different activities in parallel on occasion, make use of that opportunity to save time.
- Order the activities chronologically and plan backwards – start with the internal deadline and allocate deadlines for all activities back until the start of the project. If this results in the insight that you should already have started the work weeks ago, plan again.
- Visualise. Create an image of the project to which you can all relate, for example a Gantt chart. Write in a simple risk analysis – where are our main possible sources for delays and how should we prepare for them?
- Let this planning take some time, and involve all team members. Resist the urge to start working on the task immediately, there is a substantial risk that you end up spending a lot of energy on issues that does not add value to the final delivery.

Secure resource availability - book work sessions

The major problem behind project delays is usually not incompetent planning. OK, yes it happens that planners are over-optimistic, and yes, it happens that project advocates deceive themselves and others just because they are obsessed with the idea of seeing their pet project through. But the most usual problem is that people are not available when the plan assumes they should be available.

You cannot imprison people to ensure their availability for project activities. That is illegal in most developed countries. But you can insist that all team members pen down the project work hours in their agendas, reserving it for individual and/or collective work on the activities. Not only the team meetings, but the whole individual workload. Otherwise these un-reserved hours are easily consumed by other immediate needs – getting a haircut, going to the supermarket, having a beer, updating your Instagram flow - you name it.

Be honest to each other about individual discipline problems, be honest to yourself about your tendencies towards procrastination and postponement. Meet and work together if necessary. Be understanding of personal situations — team members with kids, disabilities etc.

Make most possible use of supervisory sessions and midterm presentations

In many courses, the teacher team announce a series of supervisory sessions and checkpoints. As you have probably realised by now, these are intended as an infrastructure to help you all to move towards the final delivery in an orderly manner. Teachers hate complex last-minute consultations with panicking students as much as students themselves hate them. Make use of this infrastructure and incorporate it into your team project plan! Decide what kind of help or input or confirmation you are after, and organize your interaction with the teacher accordingly. Make sure the teacher receives relevant documentation beforehand (not 10.30 pm the evening before the tutorial), formulate precise questions, and document what is said. If presenting drafts to other students, take notes on who said what so that you can easily follow up on that later.

Create a common and convenient common digital workspace

Complex projects usually result in a lot of documentation and numerous versions of documents in progress. Avoid all confusion by storing everything in a digital workspace accessible by all team members. Document things that happen in the project, save previous versions of core files. Most learning management systems and major internet firms offer such functions nowadays, make use of them!

Assign a project manager, but expect everybody to take part in leadership work

For larger projects and teams with more than 3-4 members, you might want to assign a project manager. The task (part time) of that person is to

 Keep an oversight over the deliveries taking place in the project activities.

- Plan ahead, to have a more distant planning horizon than the others. Not least concerning the resource needs, i.e. the availability of the team members for project-related activities.
- Communicate with the main stakeholders i.e. the teacher(s).
- Keep the digital workspace clean and tidy.
- Keep a simple and open project diary where important events and decisions are penned down.
- Initiate retrospectives, i.e. regular mini-sessions at the end of work sessions, where the team asks itself what is going right and what can be improved.

Assigning a project manager does not mean that the rest of the team become hapless drones who can only be saved from their own incompetence by an omnipotent Leader. In a professional team, everyone assumes responsibility also for leadership tasks, and these tasks can easily be distributed and also rotated over the course of the project. If someone else in the team has a better relation with the teacher, let he/she handle that communication line instead.

Have fun!

Last but not least, have fun! A project can be a fantastic opportunity to accomplish something astonishing, to reach creative heights together that no one could ever dream for. Some tips:

- Communicate all the time.
- Celebrate your successes. If you do, you establish a common sense of pride and ability to achieve.
- Handle your mistakes honestly and swiftly.
 Learn from them, repair the damages and bury them quickly.
- Give each other constructive feedback all the time. You may well work together again some day.
- Be positive and care for your team fellows.
 Remember: We're all smart here. Distinguish yourself by being kind.

Good luck!!!

Note: This text was first published on http://www.lindgren-packendorff.com 22nd January 2018. I am indebted to the following colleagues for their comments and suggestions to an earlier draft of this paper: MSc Britta Nordin Forsberg, Dr Maxim Miterev and Dr Anna Jerbrant.



Dr Johann Packendorff is Professor of Industrial Economics and Management at the School of Industrial Engineering and Management, KTH Royal Institute of Technology, Stockholm, Sweden. He has 25 years' experience as researcher, educator and speaker on project management and related fields. He is a permanent member of the Swedish Project Academy and co-organizer of the Making Projects Critical (MPC) international workshop series. In 2017, he received the PMI Research Achievement Award. He can be reached on his e-mail: johann@kth.se.