TEAMWORK - A PRACTICAL GUIDE FOR STUDENTS

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INTRODUCTION

In college, you are often told that the work you hand in must be your own. In the work place you are usually expected to work in a team. Learning how to be a team member, and how to manage a team, should help your employment prospects. Also, studying in a team can help with your learning [2, 3, 5, 8].

This guide should enable you to

- explain the benefits of teamwork
- recognise the stages in the development of a functional team
- understand the different roles and responsibilities of a team member

WHY TEAMWORK?

When students work together in a group, they usually split the task into small, separate pieces; each group member then works on their own small piece and, at the end, the separate pieces are joined together. The main advantage gained is division of labour. The disadvantages include: a group member not completing their task on time, the responsibility for assembling the final product falls on one person, members do not necessarily contribute to each other's work, and members do not usually understand what the others have done [3, 11].

A group is a collection of people who work together on a common task, where each member works mainly for their own benefit [6, 7]. A group is not a team.

A team is a collection of people who work for each other and for the team. Each member is involved in the decision making process, each contributes to the common goal, each shares their work and skills, each respects the other members' skills and opinions, and each member helps the others to complete their work [2, 6, 7, 9, 10].

A team monitors itself, repairs itself, manages itself, does the work itself, delivers the job itself. A team is a self-sufficient unit [2, 6, 9, 11].

Some tasks cannot be accomplished without teamwork. Television news cannot be produced, manufacturers cannot win car races, orchestras cannot play symphonies, commercial programming projects cannot be completed and seriously ill patients cannot be treated without teamwork.

Perhaps the greatest advantage that teamwork brings is the quality of the finished product. A team brings together the combined skills, talent and experience of several individuals. The performance of a functional team is greater than the sum of its individual members, the team experience inspires members to greater achievement and generates ideas that otherwise would not happen. This is known as the synergistic effect [2, 6]. Teamwork encourages creativity and the development of new ideas [8].

Membership of a functional team improves individual performance. Where each team member is involved in a team decision, each member is likely to be motivated and committed to producing the best possible result [2]. Quality comes with minimum stress.

The team shares decisions and their consequences, success or failure. A member of a successful team shares in that success and feels good. Where a team takes the blame for a failure, the blame is shared and the individual feels less bad [2, 8].

Teams provide a social framework for working [5] and teamwork develops social skills such as listening, respecting and helping others [10].

Teamwork can provide an excellent learning environment for students [3, 5]. Members can ask their team mates the questions they would not ask their lecturer. And because the social contact makes teamwork enjoyable students are more likely to stay on the course when they have difficulties [3].

However, how to make teamwork work is not widely understood or practised [6]. Teamwork does not just happen. It is a skill that has to be taught and practised and maintained [8, 9]. Like a relationship, you have to keep working at it [2].

We are dealing with natural human behaviour here. Loud, dictator like-members want to take over [10]. Quiet members who feel left out do not co-operate [10]. Resentful members suspect that others are not contributing [8]. Strong-minded individuals are reluctant to focus on the team's goals [6]. Self-centred members refuse to put into practice decisions made by the team. Lazy members and members without commitment switch off and leave the work for everyone else to do. Disputes and disagreements wreck the team [8, 11].

We are dealing with cultural baggage. Our education system is built on competition. We win by doing the work ourselves and getting more marks than anybody else does. If we use the work of others we feel that we are somehow cheating [8]. And certainly, if we use the work of others without acknowledging their contribution, we are accused of plagiarism.

We are dealing with project management. We need to set targets. We need to measure progress made against targets set. We need to schedule events and assign resources. We need to maintain documentary evidence of our team work [11]. We need to solve problems.

Creating and maintaining a team requires effort. But the effort is amply rewarded with a high quality product and a satisfying experience for the participants.

TEAMWORK IN PRACTICE

Teamwork is group work plus a lot more.

- members work to create a functional team
- members accept roles
- members hold structured meetings
- members keep records of all their work
- members use their own and each others skills
- differences of opinion are welcomed and used constructively
- the finished product is better than from simple group work

Teamwork is a process. It involves managing people as well as creating a product [2, 3, 11]. The practical guide that follows is based on [11].

Overview

This overview enables you to see at a glance the essence of teamwork.

Task	Activity or Function
Select team members	• look for a range of skills • share the same goal • can meet regularly
Evaluate team function	• forming - the team comes together. • storming - working out differences • norming - establishing responsibilities and routines • performing - getting the job done. The team is fully functional.
Decide team roles	• meeting recorder - writes and publishes the minutes • meeting visualiser - writes discussion points on the whiteboard • analyst - good problem solver • writer - edits reports and documents • facilitator - keeps the team focussed and functional • graphics - produces illustrations, charts and diagrams • leader - shared by all • task tracker - ensures tasks are completed at the right time • archivist - keeps all the team records in order
Keep records	• meeting agenda • meeting minutes • Gantt charts • events diary • citation notes • draft reports • e-mails between members • notes of impromptu discussions
Hold team meetings	• regularly • attended by everybody • start and finish on time • published agenda • published minutes • accompanied by food • everybody's contribution welcomed
Make decisions	• categorise as minor or major • use criteria • respect everyone's opinion
Resolve disputes	• no blame • look for compromise and win-win solutions • refer to team objectives

Do not assume that teamwork happens naturally - it does not. Do not assume that someone else will do the job - they will not. Do not assume that a stage does not matter - every stage is important.

Forming a Team

You should ask these questions because you are trying to form a well-balanced team with a good range of skills. If your team members are chosen for you, you should still ask the questions because then you can see where your strengths and weakness as a team lie.

Question	*Comment*
Do we have complementary skills?	The skills needed to complete a project include - creativity - to generate new ideas - presentation - to organise an oral presentation - analytical - to understand problems - graphical representation - to produce drawings and diagrams - co-ordinator - to help the team work together - writer - to document the project in accurate English - organiser - to schedule and track a complex process - technical expertise - to complete the project tasks
Do we have similar interests?	Discussion should help members make proper choices for the sub-tasks and for team member roles.
What experience do we have?	You are looking for any other experience that might help with aspects of the project.
How serious are we?	Agree on goals such the grade you are aiming for and the number of hours per week you are going to devote to the project.
Can we meet regularly?	Twice a week is best, plus once a week with the project supervisor.
Can we easily communicate with each other?	Exchange mobile phone numbers and e-mail addresses. Can a web page forum be created and used?

Do not choose partners just because they are your friends - the important questions you should ask are not taken seriously. Do not choose partners who have incompatible schedules - you will never see them. Do not chose partners just because they are good looking - it might help your social life but not your team work. You are looking for a well-balanced team here with a wide range of skills.

Becoming a Functional Team

Identifying where the team is in the development process helps it to become more efficient, creative and productive, but only if the team is deliberately striving towards being fully functional. These stages in team development come from the work of Bruce Tuckman and M Jensen [13].

Stage	Process	Product
Forming	The team comes together for the first time. Members are getting to know each other, the skills each brings and what each expects. Everybody is very polite. Dominant personalities emerge. Answers to the questions set on the previous section - Forming a Team - are discussed. The team lacks clear direction and wants someone else to tell them what to do.	Notes on each team member, the skills and experience they bring, and their expectations. Little or no progress is made on the project task.
Storming	Team members are trying their ideas out on each other and there is little agreement. Members feel that their contribution is not valued. Members are more interested in their own ideas than integrating and using the ideas of others. Members with conciliation skills help minimise the time spent in this non-productive stage.	Notes on different ways of tackling the project - but no agreed aims, objectives and methods of working.
Norming	Team members have learned to trust and respect each other and are moving on to the work of the project. People management skills have improved. Members agree their team roles. Members agree their project tasks. Members agree the amount of work each is to do. Spirit of co-operation evident. Members start listening to each other and respecting each other's opinions.	Aims, objectives and working methods are agreed and documented. Gantt chart. Events Diary
Performing	The team is now fully functional. The main focus is on the project. Regular meetings are held. All members attend and come prepared. Meetings are documented with agendas and minutes. Team members perform their roles efficiently and slip into each other's roles effortlessly. Decisions are readily reached and implemented. Members continuously review the team's progress. Views are freely exchanged. Members support and help each other. Members feel free to express their ideas without fear of personal criticism.	Team meeting Agendas and minutes. Results of tasks are documented and shared Drawings, reports and prototypes are created Updated Gantt charts and Events Diary.

These stages apply to every team without exception. Remember to involve every member in the decision process. Do not allow members with the loudest voice to dominate.

Assigning Teamwork Roles

A fundamental principle of teamwork is to share the load. Members work on specific tasks related to the project. Members also take on specific roles related to the team. Every role has to be filled one way or another.

Role	*Comment*
Meeting Recorder	Responsible for writing down what happens in meetings. Records key points especially decisions, responsibilities and due dates. Issues minutes (within 24 hours of the meeting being held if possible). Contributes to the discussion.
Meeting Visualiser	Writes down important points on the whiteboard. This helps keep the discussion focussed and often leads to new ideas. Clear handwriting helps. Contributes to the discussion.
Analyst	Someone who is good at solving puzzles. Experience with Excel useful.
Writer	Someone who is good at writing technical documents and reports. Ability to write clear, accurate English essential.
Facilitator	Someone who keeps the team focussed on its goal and who keeps the team reminded of good team practice. Someone who is good at resolving differences between individuals. Could be shared simultaneously between all the members. Essential for rapid transition from the forming to the performing stage in team development.
Graphicist	Someone who is good at representing objects and processes in diagrams. Ability to use graphics and drawing packages useful.
Leader	Best passed from member to member as required for tasks such as organising meetings, planning how the project is to be completed, deciding time scales, setting goals, monitoring performance and scheduling reviews.
Task Tracker	Someone who keeps track of all the deadlines and deliverables, both internally and externally. Reminds members when their contribution is needed. Ability to use project management software essential.
Archivist	Someone who files all the group's documents in a structured, orderly way. Sectioned lever arch file handy here.
Communicator	Someone who maintains the team's forum page on the web. Ability to set up and maintain the forum essential. Enforces forum etiquette.

Each of these roles is essential. Settle on who does what role early on in the project. Each member is responsible for taking on unfulfilled roles, as is the team. Remember to write down responsibilities and due dates.

Holding Meetings

Structured, documented and worthwhile meetings are essential to the success of any team.

Action	*Comment*
Establish a regular time	All members can attend if they agree a time that is fixed from week to week and if it is given the highest priority by all. A regular time means there can be no excuses.
Everyone must come	There are no exceptions - except really serious illness or close family bereavement. Proper minutes provide evidence of who is attending.
Keep to promised start and finish times	Members have other commitments also.
Use an agenda	Agendas give purpose and direction to meetings. Agree on changes to the agenda at the beginning of the meeting. Allocate time for each agenda item and stick to it. Put new items at the end.
Take minutes	One person should take minutes so that there is at least a record of decisions made, responsibilities accepted and dates when tasks must be done by. Short minutes organised by topic are best. Identify action items - things that the team has decided must be done by whom and by when. Distribute typed up minutes within 24 hours if at all possible. Record who was present and who was not
Recognise everyone	Every team has quiet members. Quiet ones often welcome being asked and are usually the source of brilliant ideas. Every team has argumentative, loud members. Ask them to summarise what has been said so far and ask them to get the views of everybody else.
Meet over food	Makes the social aspect of teamwork thoroughly enjoyable.

Set up meetings well in advance. Agendas are crucial - write one down at the beginning of a meeting if necessary. Keep proper records to prevent the loss of good ideas and decisions.

Making Decisions

The team needs to be skilled at making decisions.

Suggestion	*Comment*
Categorise decisions into major and minor	A major decision makes a significant difference. Decide which are major and which are minor. If there is no agreement, understand why different members disagree.
Give adequate time	Do not spend so much time on minor decisions that there is not enough time left for major ones. Give advance notice of when decisions are required. Discuss decisions before they have to be made and give time for members to think about them.
Use criteria	Define criteria against which alternatives can be evaluated. Between five and ten criteria is probably best. Use a criteria matrix - a table with columns headed alternatives and rows titled criteria. Each cell has a rating e.g. 0..5. Sum the scores for each alternative.
Hear everyone's opinion	The quiet members often have good ideas. Members whose opinions are not sought may find it difficult to support a decision because they do not feel they are part of the team

Do not assume that everyone agrees on a decision. Do not put off making decisions longer than necessary - minimises pressure towards the end. Consider all the implications of a decision - criteria helps here. Ensure that there is enough time to discuss major ones decisions.

Keeping Records

Documenting the project and the team activity is essential.

Document	*Purpose*	*Method and Form*
Meeting agenda	An agreement on what will be discussed at a meeting and how much time each agenda item will take	An agenda in advance of the meeting is best. An agreed agenda discussed at the beginning of a meeting and written on the whiteboard is better than nothing.
Meeting minutes	Record what happened at a meeting	Include - the date - who was/was not present - decisions made - actions required - by whom and by when Circulate the minutes within 24 hours of the meeting
Citation notes	Keep track of all sources - web sites, authors, personal contact, ...	Use cards, or simple notes on paper or a Word file
Draft report	A working document that shows the progress towards the final document	A ring binder or lever arch file updated each week by the archivist. At the beginning may only contain a table of contents and heading pages for each section. As the project progresses drafts of sections are included. Reviewed by the project supervisor so that assurance that the team is on the right track might be given.
Project archive	A record of all important documents for the project	Lever arch file, always available for reference. Include - meeting minutes - research notes - e-mails and written notes between members - notes from brainstorming and informal meetings - Gantt Charts - reviewed and updated weekly. - Events Diary - a diary into the future of every event that might (or might not) affect the team and its operations. Updated and reviewed weekly .

If no records are kept, then important information, brilliant ideas and good decisions are lost. Keep records as the event happens. Record keeping is an important responsibility. The trick is to write everything down.

Handling Disputes

Disagreements are inevitable when more than one person is working on the same task. The best teams use disagreements as a source of inspiration and innovation. The worst teams degenerate into personal insults and disaster.

Action	Comment
Stay calm	Tempers and voices rise in disputes. Deliberately talk quietly. Listen to what the other person says. Assume the other is well-intentioned.
Classify the dispute	If intellectual consider • explicit statements of facts - distinguish from assumptions • comparison of criteria • consideration of consequences • precedence - what has happened in previous, similar situations • ask one to argue the case from the other's point of view If personal (often amount of work done) consider, in addition to above • using another team member to mediate • having a cooling off period • discussing the feelings involved (while the other person listens in silence)
Look for compromise	If intellectual, the compromise may be better than either point of view. If personality, the compromise should leave each feeling the resolution was fair even if neither got what they wanted.

Disputes are not resolved by shouting. Appeal to an outside authority only as a very last resort when all other methods have failed. See the other person's point of view.

Managing Human Behaviour

Whatever the situation, the trick is to focus on the team, its purpose and goals. The team's purpose and goals should be clearly stated so that they can be referred to. If something is to be decided, the team decides it. If there is a problem, the team solves it. If a member is not performing, it is the team who asks "what can we do to help?" (not "what are you going to do about it?"). Never blame the individual. Failure is a team responsibility.

Behaviour	*Comment*
The quiet member	A valuable resource. The member is responsible for taking part and contributing. The team is responsible for including the quiet member in discussions and decisions.
The loud member	The member is responsible for being aware of their behaviour. The team is responsible for asking the member to summarise what has been said so far and then asking each team member for their views.
The forgotten decision	Decisions that are not recorded have to be discussed again. The team is responsible for ensuring that decisions are recorded.
The ignored decision	The member is responsible for accepting the team's decision even if he or she does not agree with it. The team is responsible for ensuring that the decision is implemented some how or other.
The non-performing member	The member is responsible for ensuring that the deadlines agreed to are met. The team is responsible for meeting the deadline even though a member has missed it.
Negative criticism	Both the member and the team are responsible for not criticising the person but ensuring that criticisms are made in terms of the task. Every criticism should be accompanied by a suggestion for improvement.
Success	Be enthusiastic in your approval and generous in your praise.
Failure	Failure is shared by the team and is not the fault of an individual. The team is responsible for learning lessons and turning failures into successes. The team asks: "How can we do better?"
Deadlock	Each party argues the point from the other party's point of view. Common ground is emphasised. Differences might form a third alternative. Judge alternatives against the task and the team's goals. Set a time limit. If the team decides the problem is not major or critical, toss a coin to decide the issue.
Focus	When a member wanders from the point, the team gently brings him or her back to it and the team's goals.
Communication	Communication is the responsibility of both the speaker and the listener. Use every means possible including face to face, phone calls, written notes, e-mails, electronic forum.

Deal with unproductive and negative behaviour head on. Begin with praise and honest appreciation. Call attention to mistakes indirectly. Talk about your own mistakes before criticising others. Ask questions instead of giving orders. Let others save face. Praise every improvement. Make the fault seem easy to put right. Use encouragement. Make others happy about doing the right thing [4].

Review and Evaluation

Evaluation involves making informed judgements about a product against clear criteria. It involves judging worth, quality and fitness of purpose.

Evaluate your team's teamwork against the model of a functional, performing team. You need to establish the criteria for a successful, fully-functioning team then measure how your team stands up to the criteria identified. You could start by completing a table something like the one shown below.

Criteria (for a functional team)	Product (your team's actual behaviour)	Judgement (your conclusions)
Students listen to each others ideas and build on them.		
Students interact with each other, discussing and putting questions to all members of the team.		
Students exchange, defend and re-think ideas.		
Students respect the opinions of others. Students encourage and support each other.		
Students help each other. They ask "How can I help?"		
Students share their work, findings and ideas with each other.		
Each student contributes.		

Evaluate your own performance against the role(s) you adopted and your contributions to the team.

What lessons have been learned? Be specific. How successful was the team in a) completing the project and b) working as a team? State the evidence. What were the team's strengths and weaknesses? Did teamwork help the team to achieve the task? Did teamwork help with your studies?

Scheduling Tasks

Complete all these tasks and have a productive experience.

Task	When	Why	Who	Product	Comment
Skills, experience and interests	First meeting	Know the team and the resources each member brings.	Visualiser, recorder	Lists - on the board and in your heads of what you collectively bring to the project	Combine with a discussion of what you hope to get out of the project and non-academic interests
Idea generation / brainstorming	Many times	Generate ideas to help move the project along	Visualiser, recorder	List of ideas to be evaluated against clear criteria	Work individually at first, then come together for a general discussion. Never criticise ideas.
Supervisor meeting	Weekly	Bring your project supervisor up to date on what you are doing, seek advice if necessary.	Visualiser, recorder, archivist, task tracker	Meeting minutes	Requires preparation prior to the meeting. Bring questions and organised documents to show what has been achieved and the direction the team is taking.
Team meetings	Often	Co-ordinate your work, generate ideas, keep track of deadlines and progress made towards them, edit documents, enjoy food and camaraderie	Visualiser, recorder, archivist, task tracker	Task assignments. Decisions. Ideas. Minutes	Schedule these and stick to an agenda.

CONCLUSION

This guide

- explained the benefits of teamwork - enhanced quality of finished product

- described the stages in the development of a functional team - forming, storming, norming and performing

- explained the processes of effective teamwork - communication between members completing a shared task, focus on common goals, solving problems, training, practice and evaluation

- described the different roles of a team member - recorder, visualiser, analyst, writer, facilitator (co-ordinator) graphics artist, leader, task tracker, archivist and communicator

- described the responsibilities of a team member - involvement, commitment, respect, enthusiasm, adaptability, backup and support. There is no I in teamwork.

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