

Successful teamwork: A case study

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Abstract: *Why are some teams successful and others unsuccessful? What criteria or attributes are needed for success? Contemporary teaching and learning practice over the past few years in higher education institutions has seen a proliferation of open-ended constructivist learning designs that incorporate collaboration. This has promoted the need for identifying essential attributes needed for successful teamwork. This study reviews the literature with a view of identifying a framework that educators can use to help promote effective teamwork in their classes. A case study is used to investigate two teams of final year multimedia students completing a project-based unit, in which teamwork was an essential ingredient and immersed in an authentic context. Attributes gleaned from the literature for successful teamwork was used to compare the two diverse teams.*

Keywords: *Teamwork, higher education, authentic environment*

Introduction

With the shift from a predominately instructivist to constructivist pedagogy the need for tertiary educators to use a variety of teaching strategies and methods is becoming increasingly important. Learning designs need to incorporate student-centred team based learning pedagogy such as project-based, case-based, inquiry-based and problem-based scenarios (Oliver, 2001). Students need to be immersed in learning environments that promote real learning in real contexts. Teams and teamwork help to promote deep learning that occurs through interaction, problem solving, dialogue, cooperation and collaboration (Johnson & Johnson, 1995).

These learning designs promote the construction of knowledge as they are embedded in a social experience with a team environment (Vygotsky, 1978). Effective teamwork can affect the successful delivery and implementation of these learning designs. Tertiary educators cannot assume students will the knowledge, understanding and skills needed to create and contribute to a synergistic team environment.

Through a review of the literature, this paper identifies a range of attributes considered necessary for successful teamwork. These are then used to compare two contrasting teams with a view of confirming their validity through a case study.

Attributes of Effective Teamwork

Teamwork is defined by Scarnati (2001, p. 5) “as a cooperative process that allows ordinary people to achieve extraordinary results”. Harris & Harris (1996) also explain that a team has a common goal or purpose where team members can develop effective, mutual relationships to achieve team goals. Teamwork relies upon individuals working together in a cooperative environment to achieve common team goals through sharing knowledge and skills. The literature consistently highlights that one of the essential elements of a team is its focus toward a common goal and a clear purpose (Fisher, Hunter, & Macrosson, 1997; Johnson & Johnson, 1995, 1999; Parker, 1990; Harris & Harris, 1996). Teams are an integral part of many organizations and should be incorporated as part of the delivery of tertiary units. Successful teamwork relies upon synergism existing between all team members creating an environment where they are all willing to contribute and participate in order to promote and nurture a positive, effective team environment. Team members must be flexible enough to adapt to cooperative working environments where goals are achieved through collaboration and social interdependence rather than individualised, competitive goals (Luca & Tarricone, 2001).

Research has provided a number of attributes required for successful teamwork. Many of these attributes have been consistently identified in the literature. Table 1 provides a summary of literature on the successful attributes needed for effective teamwork as follows:

- *Commitment to team success and shared goals* - team members are committed to the success of the team and their shared goals for the project. Successful teams are motivated, engaged and aim to achieve at the highest level;
- *Interdependence* - team members need to create an environment where together they can contribute far more than as individuals. A positive interdependent team environment brings out the best in each person enabling the team to achieve their goals at a far superior level (Johnson & Johnson, 1995, 1999). Individuals promote and encourage their fellow team members to achieve, contribute, and learn;
- *Interpersonal Skills* includes the ability to discuss issues openly with team members, be honest, trustworthy, supportive and show respect and commitment to the team and to its individuals. Fostering a caring work environment is important including the ability to work effectively with other team members;
- *Open Communication and positive feedback* - actively listening to the concerns and needs of team members and valuing their contribution and expressing this helps to create an effective work environment. Team members should be willing to give and receive constructive criticism and provide authentic feedback;
- *Appropriate team composition* is essential in the creation of a successful team. Team members need to be fully aware of their specific team role and understand what is expected of them in terms of their contribution to the team and the project; and
- *Commitment to team processes, leadership & accountability* - team members need to be accountable for their contribution to the team and the project. They need to be aware of team processes, best practice and new ideas. Effective leadership is essential for team success including shared decision-making and problem solving.

Case Study

Final year students enrolled in the Interactive Multimedia course at Edith Cowan University are required to develop skills and expertise in managing the design and development of client web sites. The unit IMM 3228/4228 – “Project Management Methodologies”, uses teams four or five students to utilise their specialist skills to meet a “real need” for an industry client. Team roles include programmers, graphic designers and project managers. There were 82 students (20 teams) completing this unit. The aim was to have students experience project management issues that occur when dealing with “real” clients in “real” projects and was heavily focused on teamwork and problem solving. The environment was based on the learning principles of authenticity, self-regulation and reflection (Luca & Oliver, 2001). Features included student contracts, journals (for self/peer assessment & reflection), “Conference Centre” for problem solving, bulletin boards, time management tools, syllabus and assessment materials, lecture notes, legal/QA templates, relevant URL’s, web sites and assignments developed by previous students and a student details database.

Within this setting, two teams were selected for investigation. One team was highly successful in developing a quality product, and collaborated in a highly successful manner. Another team, experienced severe team problems, which caused it to become dysfunctional and had to be split. Data was collected on both of these teams from focus groups sessions, interviews and questionnaires that were recorded and transcribed for analysis. A summary of the results is discussed below with reference to key attributes needed for successful teamwork as outlined in Table 1.

Table 1: Key attributes for successful teamwork

Key Attributes	Descriptors
Commitment to team success and shared goals	<ul style="list-style-type: none"><input type="checkbox"/> participants understand their purpose and share their goals – the combination achieves mission (Francis & Young, 1979)<input type="checkbox"/> members must share a strong common goal (Kets De Vries, 1999)<input type="checkbox"/> groups provide each member of the team with prestige and recognition (Scarnati, 2001)<input type="checkbox"/> successful teams are motivated to succeed (Bradley & Frederic, 1997)<input type="checkbox"/> there is strong team commitment to succeed (Critchley & Casey, 1986)<input type="checkbox"/> members have strong shared values and beliefs (Kets De Vries, 1999)<input type="checkbox"/> engaged in and satisfied with their work (Wageman, 1997)<input type="checkbox"/> creation of a team atmosphere that is informal, relaxed, comfortable and non-judgemental (Harris & Harris, 1996)<input type="checkbox"/> promote group cohesion (Bradley & Frederic, 1997)<input type="checkbox"/> people enjoy regular interaction with individuals who have similar interests and goals (Scarnati, 2001).
Interdependence	<ul style="list-style-type: none"><input type="checkbox"/> one cannot succeed unless the other members of the group succeed (Smith, 1996)

- together the group can deliver more than the individuals who compromise it could do in isolation (Francis & Young, 1979)
- team members must work together effectively to produce successful systems (Bradley & Frederic, 1997)
- team members interact to help each other accomplish the task and promote one another's success (Smith, 1996)
- team members build on the capabilities of their fellows – the combinations energised through synergy (Francis & Young, 1979)
- team members must take an interest in both the group and each individuals achievement (Harris & Harris, 1996)
- team members must never be fully self-directed or completely independent (Johnson, Heimann, & O'Neill, 2000)
- teams are often empowered to accomplish tasks not available to individuals (Scarnati, 2001)
- Individuals experience a wide range of new ideas and skills when interacting with team members (Scarnati, 2001)
- team members learn together so that they can subsequently perform better as individuals (Smith, 1996)

Key Attributes	Descriptors
Interpersonal skills	<ul style="list-style-type: none"> <input type="checkbox"/> people must care for each other (Critchley & Casey, 1986) <input type="checkbox"/> members must protect and support each other (Kets De Vries, 1999) <input type="checkbox"/> feelings can be expressed freely; (Critchley & Casey, 1986) <input type="checkbox"/> members must be respectful and supportive of one another, and realistic in mutual expectations (Harris & Harris, 1996) <input type="checkbox"/> there is a high level of trust (Critchley & Casey, 1986) <input type="checkbox"/> members respect and trust each other (Kets De Vries, 1999) <input type="checkbox"/> foster trust, confidence and commitment within the group (Harris & Harris, 1996)
Open communication and positive feedback	<ul style="list-style-type: none"> <input type="checkbox"/> give and accept feedback in a non-defensive manner (Harris & Harris, 1996) <input type="checkbox"/> ideal team should be highly diversified in the talents and knowledge each member contributes, while maintaining open, non-threatening communication (Bradley & Frederic, 1997) <input type="checkbox"/> value effective listening and communications that serves group needs (Harris & Harris, 1996) <input type="checkbox"/> engage in open dialogue and communication (Kets De Vries, 1999) <input type="checkbox"/> cultivate a team spirit of constructive criticism and authentic non-evaluative feedback (Harris & Harris, 1996) <input type="checkbox"/> team members must be open and truthful (Critchley & Casey, 1986) <input type="checkbox"/> enable members to express group feelings (Harris & Harris, 1996) <input type="checkbox"/> listen to all ideas and feelings; (Critchley & Casey, 1986) <input type="checkbox"/> face up to conflict and work through it (Critchley & Casey, 1986)
Appropriate team composition	<ul style="list-style-type: none"> <input type="checkbox"/> successful teams are a product of appropriate team composition (Bradley & Frederic, 1997) <input type="checkbox"/> clarify member roles, relationships assignments and responsibilities (Harris & Harris, 1996) <input type="checkbox"/> discuss differences in what each member has to contribute to the work (Wageman, 1997).
Commitment to team processes, leadership &	<ul style="list-style-type: none"> <input type="checkbox"/> tolerate of ambiguity, uncertainty and seeming lack of structure (Harris & Harris, 1996) <input type="checkbox"/> instill approaches that are goal-directed, divide labour fairly among members and synchronize efforts (Harris & Harris, 1996) <input type="checkbox"/> accept individual accountability/personal (Smit 1996)

accountability responsibility;

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- team members are accountable for their share of the work (Smith, 1996)
 - members subscribe to distributed leadership (Kets De Vries, 1999)
 - decisions are made by consensus (Critchley & Casey, 1986)
 - effective leadership is needed (Bradley & Frederic, 1997)
 - encourage group participants, consensus and decisions (Harris & Harris, 1996)
 - experiment with new ways to work more effectively; (Wageman, 1997)
 - seek best practice from other teams and other parts of the organizations; (Wageman, 1997)
 - be open to change, innovation and creative, joint problem solving (Harris & Harris, 1996)
 - take action to solve problems without waiting for direction (Wageman, 1997)
 - monitor the team's progress (Johnson, Heimann, & O'Neill, 2000)
 - perform post-project analyses to find out what worked and what didn't (Johnson, Heimann, & O'Neill, 2000)
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Successful Team

This team of students was highly successful in developing a quality product, as well as being highly collaborative. Their journal entries continually reflected positive comments about other team members, and at no stage during the semester was there a request or requirement to transfer marks from one team member to another. Team meetings were always friendly, and at no stage were team issues discussed as being problematic. The team always focused on the project and how the process of development could be improved by exploring expectations of the tutor, client and end users. An analysis of the data collected from this team indicated that they showed the attributes needed for successful teamwork. In almost all of their responses in interviews, focus group meetings and questionnaires it was evident that this team was committed to:

- *Commitment to team success and shared goals* - the team was highly focused on delivering a quality product, and not pre-occupied by personal issues that might have interrupted

this objective. They facilitated and nurtured positive, cooperative-working relationships based upon the focus of developing a quality final product that would impress their client tutor, peers and end users. The whole team was strongly motivated to out-perform other teams and shared a strong common goal of wanting to develop a product that would support their chances of gaining employment at the end of the course. This was evident in almost all of their responses;

- *Interdependence* – the team members felt that they had a responsibility towards the other members of the team and that the success of the project was based upon each team member's contribution. Team members were always happy to help peers when they were experiencing difficulties. The team would proactively brainstorm problems individuals team members were having and offer assistance if needed;
- *Interpersonal skills* – the team recognised that team members had different personalities and experienced problems at different stages. They showed consideration for each other, respected and supported others in difficult times.
- *Open communication and positive feedback* – the team recognised that it was a “healthy thing” to discuss problems or difficult issues and try to offer constructive help/criticism in trying to resolve these. They strongly valued open dialogue that enabled team members to express their concerns in a non-defensive manner. They were open and truthful about all aspects of the project;
- *Appropriate team composition* – this team was proactive in selecting their team members well in advance for this unit. They had carefully considered the skills needed for each team member, and also the type of personality for each team member. These were carefully discussed and considered by two team members four months before the unit commenced;
- *Commitment to team processes, leadership & accountability* - team members were all aware of the importance of everyone's role within the team and the process used by the team to plan and track the timing and quality of required tasks. The project manager was well respected by the team, and always consulted the team before making any major decisions. Also, the team had a number of quality assurance procedures which helped monitor activities as well as individual team members' accountabilities;

Unsuccessful Team

Another team of students experienced severe team problems, which caused it to become dysfunctional and had to be split. At the first peer assessment session, marks were transferred between team members, as it was perceived that some team members weren't contributing. Even though agreement was made at this meeting that marks should be transferred, and suggestions were made about how to improve the situation, resentment amongst team members escalated. This was clearly evident from the comments being made through the confidential on-line journal entries each week. The tutor had several meetings with the project manager and individuals to help try to resolve issues, but to no avail. At one of the team meetings a serious disagreement occurred, in which one of the team members verbally berated another, from which point there was no reconciliation. After this altercation, team members felt they could no longer work together, so even though they would experience a heavier workload, they unanimously agreed to split and form two separate teams. An analysis of the responses given by the successful team indicated that this team had a strong awareness of the attributes needed for successful teamwork. Comparing responses from this team against the key attributes needed for successful teams shown in Table 1, it was evident that this team was not congruent with these criteria:

- *Commitment to team success and shared goals* – one team member was highly motivated to achieve a high quality product, though two others were content with merely just gaining a pass i.e. they were happy to put in minimal effort. This mismatch of expectations caused many problems and frustration for team members early in the semester;
- *Interdependence* – two team members were highly competitive in this team that negated the development of a synergistic team environment. They were highly focused on our own tasks, and were not interested in helping others who may have been having problems. If others weren't performing, then the attitude was that peer assessment should be applied, rather than trying to support and help the individual. This caused a lack of team cohesion and cooperation, a feeling of disempowerment, and resulting in the eventual split of the team;
- *Interpersonal skills* – the team showed little consideration for each other and gave almost no support for others in difficult times. Team members seemed unaware and very surprised that they had upset other team members by their comments. They seemed to have not detected they were hurting others feelings by their comments and the approaches taken to solve team problems;
- *Open communication and positive feedback* – comments made by team members indicated that peers were inconsiderate of their situation and problems, and were not inclined to discuss problems, as they would only attract criticism and negative feedback. This resulted in team members not communicating freely or discussing their problems that had potentially damaging effect on the team;
- *Appropriate team composition*– this team was formed haphazardly. Three of the original team members had a quick discussion in the class and decided to make a team, and another team member arrived a week later, so the team agreed to accept them in their team, as they needed to make a team of four. Expectations and skill were not carefully considered;
- *Commitment to team processes, leadership & accountability* – the project manager happened to be the youngest in the team, and didn't command the respect needed. Team members often complained about team meetings being a waste of time, and also of team members being late or contributing effectively. One team member felt that he was not included in decision-making and did not receive all communication regarding the progress and development of the project from the project manager. The overall management of this team was perceived to be ineffective by most of the team members;

Summary and Conclusions

This study compared how well two teams performed by comparing attributes identified for successful teamwork, as shown in Table 1. From the results it is evident that these attributes played an important role in determining the success of these teams. The results show a compelling relationship between how the teams embraced these six attributes, and how successful the team was in collaborating and developing a quality product.

The results from this study indicate that these key attributes need to be carefully considered by both tutors and students when teamwork activities are proposed. Further research needs to be considered on how best to implement these strategies in a methodological fashion to ensure tutors and students acknowledge and understand the importance of how to implement each attribute i.e. a template outlining implications for best practice when designing and implementing constructivist learning designs which incorporate teamwork activities.

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