Teamwork – Teach Me, Teach Me Not: A Case Study of Three Australian Preservice Teachers

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Abstract

Explicit training in teaming skills (both preservice and inservice) has been identified as a key means of facilitating the effective functioning of teaching teams (Main, 2007). This case study explored how groupwork tasks within university coursework can prepare preservice education students to work effectively in teaching teams. Three students in their final year of study were primed to the skills that have been identified as necessary for successful team practices. The students then participated in a semi-structured interview about their groupwork experiences at university. Results from this study of preservice teacher education students reflected findings from studies of students' groupwork experiences in other disciplines (i.e., business). Students reported opportunities to practise teamwork. However, they were not explicitly taught "how" to work effectively together. It was also found that the assessment focus was entirely on the final "product" and not on the group "process".

Introduction

In many cases, groupwork assignments in university courses are set with a "sink-or-swim" approach from the academics that design them: The task is set but the process is unframed. According to Mutch (1998), groupwork in higher education has sought to mirror the patterns and expectations encountered in working life. That is, the use of groupwork tasks has aimed to develop the skills necessary to prepare students for their professional careers. Beneficial factors identified for using groupwork assignments within educational settings have included: (a) enhancing both the learning of knowledge and the learning process (Mutch, 1998), (b) higher student achievements, (c) increased social support, and (d) increased cooperative and collaborative skills (Berge, 1998). According to Gold (1995), collaborative learning or group work has

become the one of the most widely researched topics today. However, much of the literature on groupwork or cooperative learning in higher education has been focussed within disciplines where teamwork has been widely used within those professions (e.g., business). That is, where there has been an identified need for explicit teamwork skills in the professional sector, the effectiveness of prior training has been explored. To date, within preservice teacher training courses, there is an absence of literature on how well groupwork prepares students to work effectively in work-based teaching teams.

Group or Team?

The terms *group* and *team* are often used interchangeably, leading to much debate and contention within the literature about their accurate definition. For the purposes of this article, the term team will be used when referring to work teams that are long-term or permanent in nature. The term group will be used for limited-life groupings such as student groups formed to complete an assessment task. However, the term team will also be used when referring to the long-term skills (i.e., team skills) being taught, practised, and assessed through groupwork in education courses. The work of teams or teamwork can be defined as the collective behaviours that enhance the effective functioning of the team. In a review of literature, Eby (1999) noted that teamwork behaviours included communication, coordination, planning, organising, analysing, workload sharing and social support. In a teaching situation, this list can be expanded to include team teaching and sharing of resources.

In a similar fashion to business teams, teaching teams have been shown to go through a life-cycle with a beginning, middle and an end. One of the most popular theories of group development (forming, storming, norming and performing) was proposed by Tuckman (1965). Teams do not necessarily progress through the stages proposed by Tuckman in a sequential pattern but can flux back and forth in a cyclical fashion between stages or stall within a stage. How quickly teams progress from their initial formation to working as an effective team (performing) largely depends on team members' level of team skills. That is, team members' understanding of the characteristics and tasks associated with each stage and the skills to negotiate the challenges of each stage.

Teaming in Education

Traditionally, in both the primary and secondary sectors, teachers have worked mostly in isolation from other teachers within a classroom. Not surprisingly, teacher isolation has been identified as one of the most prominent barriers to educational reform (Lieberman, 1995). Working collaboratively has been identified as a key strategy for

improving the situation and the instructional effectiveness of teachers through professional dialogue (Hargreaves, 2001). This dialogue fosters collaboration and creates professional learning communities among teachers. These professional learning communities have often been referred to as teams (Brown, 2002; Flowers, Mertens, & Mulhall, 1999; Kain, 2001; Pounder, 1999; Salend, Gordon, & Lopez-Vona, 2002). Recent educational reforms that promote team practices have included committees, school councils, interdisciplinary teams, middle school teams, and a push towards site-based management (Matthews, 1998). These team practices have reconceptualised teachers' work and may well help diminish the traditional practices of teachers working in isolation. However, how teachers perceive and implement teams within educational settings may be problematic without an understanding of the theory underpinning team work as well as the requisite skills and training in the new practice.

The Need for Teamwork Skills in Education

In Australian schools, Chadbourne (2004) noted the extensive range of collaborative practices undertaken by teachers, particularly those teaching in the emerging middle school environment, and pointed to the need for more research on collaborative practices and teams. A recent study by Main (2007) investigated the formation and development of a total of four middle school teaching teams from three government run middle schools in Queensland during their first year as a team. Results from this study included a list of skills and traits necessary for teachers to effectively negotiate the various collaborative tasks necessary when working in teams (see Table 1). Main also found that one of the six main factors that either facilitated or hindered effective team practices was whether teachers had training in or an understanding of how to implement effective team practices and processes. In the research literature on the experiences of middle school team practices in the USA, prior team skills training was also identified as a main factor that either facilitated or hindered collaborative practices in teaching teams (Erb, 1997; Flowers et al., 1999, 2000; Kain, 1999, 2001).

Teamwork Skills

In Queensland, teamwork skills have been listed as an essential attribute of all preservice teachers by professional bodies and employer groups. Education graduates applying for provisional registration as teachers within Queensland are required to demonstrate proficiency in ten distinct areas. One area is focussed specifically on teamwork skills and the ability to contribute effectively to teaching teams (see Queensland College of Teachers, 2007, p. 15). It is surprising, therefore, that to date little research has been published specifically on groupwork in post secondary

Collaborative tasks	Required skills or traits

Team meetings	**Process skills**
	• team meeting protocols
	  > agendas
	  > minutes
	  > time management
	• decision making skills
	  promoting
	    – consensus/democracy
	    – fairness
	    – trust
	  avoiding
	    – groupthink
	    – adversarial approaches
	    – coercion
	    – contrived collegiality
	• assigning team roles
	• setting team goals
	• setting team rules
	• setting team expectations
	• evaluation of team process
	Individual skills
	• commitment to the team
	• accountability – giving feedback
	• problem solving skills
	• communication skills
	  > assertiveness skills
	  > interpersonal skills
	  > intrapersonal skills
	• conflict management skills
	  > positive management of conflict
	  > closed loop communication
	• self-evaluation skills

Planning	• integrated curriculum skills • negotiation skills • communication skills • time management skills • creative skills
Level of teamwork	• decision-making (when to collaborate and when to work as an individual) • giving and receiving support • backing-up behaviours • protecting the "team" • loyalty • trust
Personal and team satisfaction	• celebration of individual and whole team achievements • recognising and acknowledging the success of others

Table 1: Explicit Skills that Facilitate Teaming Practices (from Main, 2007).

teacher education courses. This is despite a substantial literature on how groupwork in university programs in business and other disciplines prepares students for the transition from university groups to work teams (see, for example, Clark, Blancero, Luce, & Marron, 2001; Ettington & Camp, 2002; McKendall, 2000; Mutch, 1998).

Learning Team Skills

Groupwork in university settings has been advocated for a number of reasons including the social benefits, collective understandings through a community of practice, and through the construction of learning through doing. Ference and McDowell (2005, p. 8) argued that middle years preservice students "need to be placed on teams to illustrate the team concept [and need to be] assigned collaborative projects in *all* of the coursework" to prepare them for work based teams. Using a constructivist-based minimal guidance approach, students in preservice teacher courses have been placed in teams and given groupwork tasks. However, in most instances, the teaching focus has been on the *content* of the required task and has failed to explicitly teach the *process* skills necessary to complete the task (McKendall, 2000; Vik, 2001). This gap in teaching has required students to become experiential learners of group work skills. In an analysis of constructivist, discovery, problem-based, experiential, and inquiry-based teaching methods, Kirschner, Sweller, and Clark (2006, p. 78) found that "strong instructional guidance rather than constructivist-based, minimal guidance" was the most effective method of teaching skills for novice to intermediate learners.

The effectiveness of student work groups has been measured in a number of ways including: (a) output (completion of a task or project), (b) positive results from task completion (grade), (c) perceived equal performance by every member of the team, (d) individual learning (increased knowledge gained by working with peers), and (e) team member satisfaction (Napier & Johnson, 2007). Many studies of student groups have focussed on the result or grade of the product output of the group as a measure of the effectiveness of teamwork being "taught". However, this focus on students' output has revealed the quality of the end product or task completion but has done little to explore or assess the process or skills employed by individuals. As students near the completion of their programs of study, there is the implied expectation that the team skills learned through groupwork projects will have their parallels with work teams and students will be able to transfer acquired skills and attitudes to a work setting.

The Research Question

In an effort to clarify what are considered as crucial characteristics of the position and disposition of team members for the success of groupwork, this study examined three

teacher education students' perceptions of their groupwork experiences throughout their university studies. The question to be answered was: How well does groupwork within university coursework prepare teacher education students to function effectively in professional work teams? This question was broken up into the three sub-questions: (a) Have students been explicitly taught teamwork skills, had opportunities to practise those skills, and have those skills been assessed within university courses? (b) Do students perceive they have acquired effective team working skills? and (c) Do students feel confident that they are able to transfer acquired teamwork skills into work teams?

Method

A case study approach was used in order to investigate the team skills and attitudes of teacher education students across a number of education program pathways. The goal of this approach was to "gather opinions from people who are demographically, educationally, or professionally similar" (Kemper, Stringfield, & Teddlie, 2003, p. 302). The three participants in this pilot study were all final year teacher education students. An email outlining the objectives of the study was sent to secondary education students in their final year of study at one university. The three participants were a convenient sample taken from the small number of respondents ($N = 5$) that agreed to participate in the study.

Participant one (P1) was a mature-aged student (aged 35+) enrolled in a four-year secondary education program. Her specialist areas were history and English. P1 had completed a university preparation course at TAFE (Tertiary and Further Education) prior to commencing her undergraduate degree. P1 reported some prior training in team work skills during her TAFE course.

Participant two (P2) had entered university straight from high school (aged 22). She had completed the first year of a bachelor of science before transferring and undertaking a four-year secondary education program. Her specialist areas were science and maths.

Participant three (P3) completed a three-year undergraduate degree in instrumental music (aged 21). She wanted to work as an instrumental music teacher in a high school and was undertaking a one-year graduate diploma in education. She was not required to undertake a second specialist area (i.e., she would teach instrumental music exclusively).

Data Collection
Participants completed a 5 point scale Likert survey to determine their perceptions of their team work attitudes and skill levels. The survey included items regarding

attitudes, skills, and traits surrounding team work. These items were drawn from current literature on the essential skills that have been shown to facilitate effective teacher teams (Main, 2007; see Table 2). This Likert-type survey has been field tested and refined (Main, 2007) and included a 5-point response scale (1 = *strongly disagree*, 2 = *agree*, 3 = *undecided*, 4 = *agree*, 5 *strongly agree*). Results from survey data were then used to direct the semi-structured interviews and explore areas where respondents had indicated either high or low levels of skill. A behaviour-event interview (BEI) technique (McClelland, 1998) was used where participants were asked to describe how they actually behaved in teamwork situations rather than asking them to report on their espoused theories of action. This interviewing technique enabled a triangulation of data where the researcher matched what participants claimed were their perceived strengths or weaknesses (survey results) with what they actually did in practice (interview results).

I know how to	SD	D	N	A	SA
1. assign roles to each member of the group					
2. set group goals					
3. set group rules					
4. solve problems when they arise in a group					
5. negotiate effectively with others					

Table 2: Sample of Survey Questions

The semistructured interviews lasted approximately 30 minutes. A series of "set" questions were based around four topic areas including: (a) attitude to teaming, (b) processes when teaming, (c) benefits of teaming, and (d) interpersonal skills when teaming. These topic areas were designed by the researcher in accordance with the review findings of current literature surrounding effective team attributes.

Data Analysis

Interview data were read in full and then reread and coded using a combination of open and focused coding (Charmaz, 2000). This systematic and thorough process was followed and allowed the author to understand the data at its most basic form and then to identify salient issues, features, and relationships within and across the data set. Individual interviews were read and reread and interview responses were cross-matched with survey responses. Any inconsistencies between survey responses and interview data were also noted. The results of the analysed data were collated, examined, and summarised. Five main themes emerged namely: (a) attitude (including perceived benefits and disadvantages), (b) group processes (including decision making), (c) facilitation of groups (available support), (d) intrapersonal communication skills (including relationship building), and (f) conflict.

Discussion and Results

These emerging themes aligned with themes identified by Main (2007) in a major study on teaching teams as the main factors that either facilitated or hindered teaming practices. These results also resonated with the research literature on the experiences teaming practices in the USA where a number of factors have also been identified that either facilitate or inhibit collaborative practices in middle school teaching teams (Erb, 1997; Erb & Dickinson; 1997; Erb & Doda, 1989; Flowers et al., 1999, 2000; Kain, 1997, 2001; Larson & LaFasto, 1989). Results from all participants have been cross-matched and are presented under the headings of the five main themes listed above.

Main (2007) found that there are explicit and generic teaming skills that are applied at all phases of a team's life cycle. However, at certain points in a team's life cycle, the importance of particular skills becomes magnified and highly relevant. That is, all skills are applicable throughout the teaming process but certain skills need to be available (i.e., known and practiced) at certain points and accessed by team members in a timely way. For team meetings, strong team process skills and individual skills including conflict management skills have been shown to facilitate a team's progress through the forming and storming phases more efficiently (Erb & Doda, 1989). In the absence of certain skills, teams may continue to forge ahead but may also stagnate within a certain stage of the team's life-cycle and not progress to become an effective team.

Attitude

While participants' attitudes and understandings of the purposes of groupwork varied greatly, all three felt that, on some level, groupwork was designed to prepare them to work in work teams. P1 stated that the benefits of groupwork at university were:

> the improved social skills . . . being able to work with other people and the benefits of working in a group are that you get richer ideas, more ideas. I guess it's a synergy [*sic*]. [I]f it is a good group experience you get a much better project than you could if you are working as an individual.

Although all participants saw positive aspects of groupwork, P1 and P2 felt that groupwork was also included to minimise the amount of marking required by tutors (i.e., "I also think that it is because tutors don't want to do all the marking".)

Prior groupwork experiences tended to negatively affect participants' attitudes towards groupwork. Although all participants looked forward to the support they would receive as beginning teachers in work teams, they noted changes or conditions that needed to be met to improve the functioning of future teams. These conditions

included good communication, enthusiasm and commitment to the team task, and a synergy between team members. P3 noted that many of the issues experienced in groupwork assignments would also be present in work situations and that she would apply the same coping mechanisms that she used in university groups (i.e., carrying the workload) in her professional career and stated:

> just because you are becoming a professional doesn't mean that you
> enter a workplace and everyone is going to miraculously be . . . willing
> [to work as a team] and so, yes, because I want to do a good job and if
> I am working in a team or group, the overall task needs to be completed
> then I will do the extra work . . . because otherwise it reflects on me.

Benefits

All participants could articulate the potential benefits of groupwork tasks but reported that these were unrealised. A lessened workload is one potential benefit from working as a group (Spry, Sultmann, & Ralston, 1992). However, all participants reported that group assignments resulted in at least the same or greater workload than in individual assignments. P3 commented that the additional "stress and time to meet and communicate effectively" contributed to a perception of increased workload. P3 further noted that:

> there were often people in my groups that wouldn't put any effort into
> group projects and expect to get the same mark as me . . . I didn't want
> my grades to suffer and they wouldn't do the work and in order to get
> the grades I would have to put in more effort . . . I much preferred that
> than the alternative of letting it slip . . .

Another benefit of groupwork is the combination of ideas and expertise resulting in a superior end product (Berge, 1998). All participants reported that they had, at some time, produced a better overall group product than if they had completed the task as an individual. P1 noted that "in most instances my groups have done quite well academically and . . . that is an outcome that I looked forward to". P3 was the most optimistic and positive about this benefit, whereas P1 and P2 noted that this benefit was the exception rather than the rule. However, participants reported the time and stress costs associated with working as a group far outweighed the benefits of pooling expertise.

Disadvantages

When asked about the disadvantages of working in a group, a number of issues were common in each participant's experience:

1. Social loafing (a member does not contribute yet reaps the benefit of the
   team grade).
   P1: Some won't work at all. Some don't want to do much work.

> P3: When you don't trust them . . . and you don't think they really care
> about it (the final grade) . . . and they are not going to pull their weight
> and you want a good job done, well then you have basically got to do it
> yourself.

2. Poor communication skills (oral and written communication skills).
> P1: People [need to be] more willing to listen to each other and link up
> and [be] able to communicate more effectively. I think we need to learn
> to communicate better . . . [to] be taught how to do it rather than just one
> person trying to do all the communicating.

3. Differing expectations (beliefs regarding goals and performance of the
group)
> P3: Another difficulty is when they don't understand the task, or they try and
> do something or include something that you don't see as being relevant to
> the task. It was hard when . . . people wouldn't do their assignment or they
> would do it really differently to what you expected that they would do and
> so a part of the work that should have been done wasn't done.

Group processes

None of the participants reported being explicitly taught any groupwork skills within their university courses. This is in contrast to a growing number of researchers who support providing novice learners with direct instruction and guidance rather than a minimally guided approach such as experiential or constructivist learning (Klahr & Nigam, 2004; Tarmizi & Sweller, 1988). P3 did report receiving some advice on their group process when they were told to "break the topic up and give different people different parts to do". However, all participants felt that there was an expectation that student groups would know how to define the task and set goals, assign roles within the group, and manage the group dynamics throughout the project (see Table 1, see also, Johnson & Johnson, 2003). All participants regarded learning how to manage groups and group processes as being important for them as teachers and recognised that they would also be required to organise and monitor student groups within their classrooms.

P3 was the only participant to report that she felt confident enough to manage a group task from formation to completion including understanding the task and setting goals, breaking up the task and assigning roles, monitoring the task to ensure completion within the allotted time as well as ensuring the quality of input and managing group dynamics (see Table 1, Process skills). P2 felt less confident about managing a group project and noted that she had informally learnt how to work as a team and had managed to work within groups to successfully complete all group tasks. However, she also commented that a compulsory subject on how to do groupwork effectively at the beginning of a study program would be very useful.

Decision making

The main strategy used for decision making within groups was reported to be a "majority rules" process. Tight time-frames were reported to be the main reason for using this approach. P3 reported that in her groups she had tried to make decisions through negotiation, good communication, clarification of the task, and then with all members agreeing on the final decision (i.e., consensus). However, she also noted that, when one team member was difficult and they "needed to work around" him or her, the group used a majority rules decision making process. All participants admitted that, despite having different ideas, they had been quiet in some group meetings and agreed with others "just to get the work done". That is, they had allowed others within their groups to determine what was to be done and by whom to reduce their own personal work load.

Facilitation of groups

For all participants, instructors were seen as someone to approach for clarification of the topic or task (i.e., subject content knowledge) but not for solving difficulties involved in group processes. P1 was the only participant who had spoken to a tutor about group dynamics. She commented that she had been able to vent within this meeting and stated that:

> tutors aren't stupid and they know what goes on and have experienced that and they can tell . . . [However,] everyone gets marked on the whole performance of the group and I do have a problem with that because I don't think that is fair.

P2 commented that "running to the tutor to dob [*sic*] [on other group members] was immature". Another view was that "tutors were a person of last resort" when a group was experiencing problems and when the timeframes were so tight for the completion of group projects that there was "no time for mediation" and the consequences (i.e., a poor mark) were too high to not just get on with the job.

P3 noted in one of her group assignments that a "group reflection sheet" was to be completed as part of the group project to allow students to report on the input of other students. A differentiation of marks could be applied if students indicated that others had not contributed sufficiently to the group project. However, the effect of this reflection sheet was negated when completed within a tutorial and with all group members able to see and compare written comments.

Interpersonal communication skills

All participants reported that they had good communication skills and were able to share their ideas clearly with others. However, these comments were not consistent throughout the behaviour-event interviews. P1 commented several times that she had

good communication skills but also reported unresolved difficulties in having other group members listen to her and that she would "just keep saying it until people got sick of hearing it and cave[d] in". P2 noted that there were always "groups within groups" and that a free and open discourse during groupwork was not always the best policy. P2 also noted that she was able to express herself clearly depending on her mood but always ensured she had input at every stage of the group project. P3 was the only participant not to report group personality conflict and further noted that she had "not felt dominated", was "confident putting [her] views across", "voiced concerns when necessary" and felt that being tactful when communicating was very important.

Conflict

Conflict within groups was reported by all participants with avoidance or direct confrontation being the two main conflict management strategies used. However, none of the participants reported using conflict management strategies effectively. Conflicting ideas (i.e., understanding the task) and social loafing were common causes of conflict among participants. Conflicting ideas were reportedly resolved through communication, negotiation, and being "tactful and kind". However, social loafing was more difficult to deal with. All participants felt that it was difficult to "call" people on their underperformance. Moreover, the general consensus among participants was that they did not report this type of group problem to tutors or lecturers. Other issues that resulted in conflict included whether the group was on task, used time effectively, or produced quality work. Ways of managing conflict varied among participants depending on their personality. That is, where the participant was stronger and more outspoken they used direct confrontation; other less outspoken participants primarily reported using avoidance (Callanan & Perri, 2006).

P2 and P3 reported attempting a softer approach towards some group conflict by trying to discuss, compromise, and negotiate to work the problem out. However, both participants reported that usually they would have to circumvent or work around an uncooperative group member to get the task done (i.e., avoidance). P1 reported being more assertive and tended to take a confrontational approach. Describing one incident, she stated:

> I got angry and spoke to them quite sharply and told them that I didn't think that our presentation would be any good and . . . I [was] tired of them just ignoring me.

However, she observed that this approach often left conflicts unresolved as she was unsure as to how to deal with the problem once it had been aired. Again, tight time frames to complete projects were perceived as not allowing the time necessary to work through a mediation or negotiation process.

Conclusion

This study provided an analysis of three preservice education students' perceptions of their groups' functioning throughout their different programs of study. Although the sample was very small, results from this pilot study aligned with findings from other studies. That is, students were given opportunities to practice team skills through group work tasks but were given little or no direct instruction or guidance as to the process (see Ettington & Camp, 2002; Stone & Bailey, 2007; Willcoxson, 2006). A larger-scale study is needed to determine whether these findings are indeed indicative of teamwork training needs across a wider range of preservice education courses.

In relation to the question: How well does groupwork within university education programs prepare students to function effectively in professional work teams?, several issues emerged. First, the three students reported limited exposure to the explicit teaching of any groupwork skills or processes even though they had been given opportunities in almost every course to practise groupwork. They also reported no actual assessment of group processes. Second, to meet the Queensland College of Teachers' Standard 9, teachers need to be able to demonstrate effective team skills and enhance the performance of professional teams. Teachers also need to know and understand personal and team goal setting and management techniques, time management, conflict resolution and problem-solving techniques, the principles of group dynamics, the qualities of effective team members and characteristics of high performing teams and techniques for monitoring and reviewing team performance (Queensland College of Teachers, 2006). Without the explicit teaching, modeling, opportunities for practice and feedback on practice (i.e., assessment of the team process), teamwork skills and an understanding of teamwork processes will not be developed. Third, to further complicate the expectation that preservice teachers are explicitly taught team skills and processes, the question might be asked: Do those providing groupwork experiences understand the theory and processes involved in groupwork to be able to adequately support and teach students group work processes and skills?

Students' levels of confidence in applying acquired groupwork skills to work teams varied greatly among the three participants. Negative experiences in university groupwork resulted in two of the three students having reduced confidence about future work teams. Students also reported using ineffective conflict management strategies and reported having insufficient time to practise decision making and negotiation skills. Finally, participants did not believe that they were adequately prepared to work in teams within their chosen professions and many of the problems that existed within university groups would be mirrored in work teams. That is, their limited explicit knowledge of groupwork skills gained at university would not be sufficient to enable them to work effectively within work teams.

Preservice teachers in this study reported the same difficulties in their groupwork experiences that inservice middle years' teachers reported in the study by Main (2007) as well as those reported in international literature on teacher team practices. That is, many of the same factors that have been identified to either facilitate or hinder effective work teams were present in these students' groupwork experiences. In this study, time issues (tight time-frames for assignments) and the rewards associated with the task (i.e., grade) motivated students to get the task done. However, the assessed product (i.e., grade) does not reflect the level of team process skills that students have achieved.

Implications for Teacher Training Programs

For participants in this study, it could be argued that their groupwork experiences throughout their university studies have not adequately prepared them to work in professional teacher teams. Results from this study have conceptual value for training institutions when designing programs that prepare teachers to work in teaching teams. First, group skills need to be taught directly through modelling and practice of micro-skills prior to undertaking group work tasks. Students identified that they had gaps in their teamwork skills training and that, in some instances, a negative transfer of skills may occur. Elmore (1996) noted that teacher enthusiasm and commitment to reform efforts (i.e., changes in the nature of their work) was a valuable resource but that without adequate training and ongoing support, teachers would revert to more traditional (i.e., more familiar) practice (i.e., working in isolation). The explicit teaching of teamwork skills that promote change, transformation, and enhance understanding of teamwork processes must occur concurrently with the opportunities provided for students to practice teamwork. Thus, the following four recommendations should be considered if training and reform implementation of teaming practices are to occur concurrently:

1. Instructors need to be trained in and experience teamwork theory to enable them to teach skills and then support students throughout the groupwork process. Without the explicit teaching of teamwork skills, students are unable to make "changes to pre-existing knowledge and understanding, [and] no learning will have occurred" (Fry, Ketteridge, & Mashall, 2003, p. 11).

2. Groupwork processes should be monitored by having students develop contracts that include goals, roles, decision-making processes, and conflict management techniques. A range of strategies to assess and manage the group process effectively should also be explored, including regular team reports, reflective journals, and copies of agendas and minutes of team meetings.

3. Particular attention should be given to provide opportunities for "active experimentation" (Kolb, 1984) of conflict management skills throughout the length of the program. For example, how to respond appropriately and create accountability within groups when group members fail to provide sufficient input into the project (social loafing), have a dominant personality, are difficult to contact, or have set ideas on how the task should be completed.

4. Ensuring practicums provide students with the opportunity to work as part of a team to enable them to recognise the relevance and the transferability of teamwork skills from group projects to work teams.

In advocating these recommendations, it is envisaged that universities' key graduate skill goals and the requirements of teamwork skills by employers in education will be more closely aligned with coursework instruction. By embedding the explicit teaching of teamwork skills, continuing to provide opportunities for students to practise those skills, and assessing those skills within a context, students may be better prepared to work effectively as members of teaching teams

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