10. Developing Interdisciplinary Teaching, Student, and Cooperative-Learning Teams

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The most important aspect of creating and developing teams is to share leadership (Pearce & Conger, 2003). Individuals work best in teams if they are prepared to better understand what teamwork means and what team issues may arise, and if they are provided some process tools. Teams should be made up of very diverse individuals; otherwise there is no need for a team. Each member should bring something different to the group (knowledge, skills, capabilities, or expertise), and the team should understand that not everyone should be doing the same things. However, in teaching teams and curriculum development, sometimes all team members are developing like curriculum across different disciplines, so they all do a similar activity that is different in knowledge base or discipline. In these cases, teams are usually put together to bring about some type of change or improvement in content or processes.

At a minimum, teaching team members need a simultaneous preparation period so that they can plan, develop, or change curriculum; assign tasks; assess progress; give feedback; and evaluate their ongoing activities together, but especially so they can intellectualize and generate together. Very importantly, they need time together to assess student work and learning and to connect regarding students across shared classes. They also need a common place where they can leave work in progress and not have to constantly be setting up and taking down a team space.

If teams are delivering interdisciplinary curricula, whether for an entire year or modular ones for shorter time durations, they need to have access to students through block scheduling, back-to-back classes, or team teaching through exchanges across classrooms. Finally, teachers need active and open support from their administration. The principal, beyond approving simultaneous preparation periods, space, and block scheduling, needs to observe, give feedback, and show interest in what the teams are doing.

A school that wants to move toward a team culture, whether partial or full team operations, should understand that things will change, that classrooms and other school spaces will be used differently, that the teams will teach differently, and that students will begin to learn differently. The administrators must be open to exploring new venues for teaching and learning: in other words, a change-oriented culture where exploration, experimentation with a purpose, and continuous improvement becomes the norm. Interdisciplinary teams can thrive in this type of culture. However, in most situations where we have introduced teams, they have struggled to survive. We know that if teams are provided professional development for teaming purposes and if the support is in place, they greatly improve teaching and learning. We also know that when the support is not there, the individuals may be connected but do not really function as teams because it is not possible.

The program described below functioned well to inform and prepare teams. It provides a program to use in the development of student teams or cooperative learning teams. Each topic includes particular related activities and product or process outcomes, which are, in turn, used by the teams as they operate.

Team Development Program

Many resources are reflected in the basic program described below. Phillips and Elledge (n.d.), *The Team Building Resource Book* and *The Encyclopedia of Team Building Structure*, are invaluable foundations, while Thompson (2004) ties theory to practice. Also Michaelson et al. (2002), Vermette (1998), and Brody and Davidson (1998) are great resources on team-based and cooperative learning.

Change

Our focus is on helping teachers understand purposeful change: that it can occur in small steps and that many small changes can become a significant change. The connection between change and learning is critical. Using Senge's (1990) *Fifth Discipline*, we discuss learning organizations from the perspective of the learning person. Learning people are central to the critical core of learning organizations, e.g. schools. Therefore, teachers, administrators, and professional staff must be learning professionals if purposeful change is to be accomplished. When leading teachers to identify improvements requiring change, we help them analyze their strengths and areas needing improvement by comparing what they know and do to the state teaching and learning standards. This helps teachers become "grounded" for what they are about to engage in with each other and their students. Senge et al.'s (2000) *Schools That Learn* is an important resource as well.

Individual and hidden agendas

Individual team members have their own agendas for participating. When we better understand their reasons for joining, we have a clearer grasp of their commitment levels, which helps gauge what can be accomplished by the team. We have worked with team members who were there for a variety of reasons: their principal required them to be part of the team; they had a desire to improve their teaching and student learning; they wanted the technology provided each teacher or the stipends for the non-school days; they respected others who were there and wanted to work with them; or they had been recruited by other teachers – to mention a few. The PI and project team seldom have a voice in teacher selection and must work with those who appear in our groups. Most of the teams and members are highly motivated, but there are those in every school who show up for the extrinsic rewards and really do not relate to the real purpose for the endeavor. Some of those we "convert," and they become highly motivated. Some we are not able to reach.

It is important to explore the agendas of participants because, in the process, many become more highly motivated, explore their inner selves, and become stronger in their commitment. Openness about each other's potential commitment levels and understanding about why some members may be less able to commit to higher levels reduces the number of

assumptions and harsh judgments that can cause negative feelings. Teachers make their individual commitments and identify their individual agendas, and then the team sets its agenda with a realistic level of commitment. This prepares them well for defining their vision, mission, and goals.

Team Vision, Mission, Goals, Purpose, Values

Participants come to us with a very general idea of what they are going to learn about and try in their classrooms, but no deeper understanding of what it might entail. This is where we get down to the specifics and build that "picture" together. This program component motivates the teachers through making clear to them what they want to do, how they are going to accomplish it, and what their operating values are. Typically, teachers become so excited, they ask for more depth and components. After discussing the nature of visions, missions, and goals, teachers develop an individual vision, a collective team vision, and one for their students. Sometimes we talk about the superleadership theory (Manz & Sims, 1989), explaining that their ultimate purpose is to develop self-leadership in one another and their students. An examination of values must come into play. Pragmatic values can relate to being on time, following through with commitments and assignments, communicating in a timely manner, and supporting each other. Other values get at the deeper meaning: ethical grading, how students are to be treated, gossiping about team members, and building self-esteem. Other types of values can go as deep as moral perspectives and religious convictions. Teachers need to understand that the team has to agree on values to which all members can commit and be held accountable. Once the teachers have defined the team's vision and their values, they must make it operational by defining their mission (Cleland, 2003). They then break the mission down into the work that has to be accomplished. This work is defined through their goal and objective statements, which are measurable to particular standards and timelines.

Team Building vs. Team Development

There is an important distinction between these two constructs. Team development happens only over time, as members work together to solve problems, generate ideas or solutions, or develop products and processes. Overcoming hurdles and barriers together is part of the development process that promotes cohesion and finally success to establish a lasting camaraderie. Team building is something different. Teams may encounter a problem, conflict, barrier, or have a need to learn something. This is where they take a conceptual time out and build the team, address deficiencies, or learn something needed to accomplish its mission. Team building occurs with a focus for short periods of time, while team development occurs as members work together over a longer time.

Our teams learned about the phases of development as they became cohesive, focused, productive groups:

> *Teamwork.* The leader and teams discussed what it meant to work together, how to share ideas, how to build self-esteem and confidence, how to lead and to

follow, and how to measure decisions against the metric of what will best achieve the team's goals.

Trust and Empowerment. Trust was discussed broadly, ranging from trusting one another to being respectful to building self-esteem rather than engaging in destructive criticism. Participants were reminded that the beginning point is self-knowledge and an awareness of one's own assumptions and interpretations. Empowerment was defined as freedom to both lead and follow, to learn and thus to change. The team became greater than the sum of its members in capability and achieved far more by realizing the talents of each member.

Team Health: Effective Members and Conflict Assessment. We directly engaged the teams in describing what they felt were effective team member traits, actions, and behaviors. Then they adapted or developed a peer assessment inventory, a team assessment inventory, and a conflict assessment inventory as tools to measure perception and satisfaction and to engage in conflict resolution when needed. They also designed a process for using the tools, giving feedback, and engaging in necessary changes. The teachers highly valued this activity.

New and Troubled Teams. The dysfunction experienced by troubled teams was almost identical to that experienced by new teams. We discussed the characteristics and how to prevent dysfunction.

Effective Teams. As teams developed their own description of effectiveness, they began to realize that they needed guiding principles, simple policies and procedures, and process tools. These were all identified, and then the teams adapted or developed each strategy, tool, or process.

Roles and Responsibilities. Teams considered two or three types of roles and responsibilities. They had work roles, team process roles, and administrative roles. In work roles, everyone contributed to accomplishing the team's goals. Other important roles that for team members are:

- Gatekeeper – kept the team on task
- Harmonizer – ensured that conflict did not become destructive
- Closure artist – wrapped up meetings and events, reviewing what was assigned and who was responsible, and set the next meeting or event's agenda
- Manager or coordinator
- Leader (might be same as manager or coordinator)
- Finance manager, if necessary
- Recorder
- Communication coordinator
- Others determined by the team as needed

Teams often develop "work packages" as in industry. A work package is a description with all standards, expectations, budgets (if applicable), and timelines for the work to be accomplished. Work packages are an easy method for organizing work and establishing responsibilities, schedules, and levels of quality. Teams developed a simple form to be completed for each package. Each package had a manager, who might do a package in its entirety or possibly with other members. The manager was responsible for updating the team and the leader about progress, difficulties, or issues. The finished package was presented for approval to the team or team manager. Often, however, team members work individually, contributing to a single work package, e.g., a curriculum module.

Process Models

The following process models were identified and defined; the teams also described the process to be used with the models. Some of these models were intertwined. For example, if it was hard to decide if a conflict was a problem or if a problem was causing a conflict, we tried not to get too tied up in analysis, but instead we advised teams they were going to have to identify a process for making decisions and moving on with their work. The other models were used individually and were not necessarily connected to others in time and use.

Problem-Solving Model. Most of us could list the five- to seven-step problem-solving models that we have been taught but rarely ever use or unconsciously use intuitively. We introduced these steps to the teams and helped them understand they might occasionally need methods for formally solving problems. We used videotapes along with discussion or simply presented the steps and described them. Team members then described a process they could use to achieve the ultimate goal, a solution that was the best to achieve their goals and purpose. That was the key metric. They determined how to put everyone's ideas for solutions on the table and how to begin discussing what might be a more significant problem. They used simple processes such as putting everyone's ideas anonymously on index cards on the wall or a board, reviewing each one for strengths and areas needing improvement, sometimes anonymously. At other times, they just brought the problem to the group more informally and openly discussed it. The more significant and dynamic the problem, the more anonymous they made the process.

Other models used in tandem, such as the problem-solving process: identify what the problem is and what it is not. It moves the group more quickly to problem identification and the root cause. The steps usually put into the process are:

Problem Identification.

What is the problem?

What is the problem not?

Problem Definition.
    Describe the problem.
Problem Causes.
    What are the problems' symptoms?
    What are the root causes?
Alternative Solutions.
    List 10 possible solutions.
    Rank the solutions.
    Identify the top 3-5 for further analysis.
Analysis of the top 3-5 alternative solutions.
    Identify the strengths of each.
    Identify the weaknesses of each.
    Rank the top 3-5 again after strengths and weaknesses analyses.
Implement top ranked solution.
Monitor implementation.
Evaluate if the solution works.
    If yes, continue.
    If no, loop back to alternative ranked second and begin process again.

Conflict Resolution. There are many accessible and useful sources of information on conflict resolution. We reviewed them, and the teams adapted some to create their preferred model for resolving conflicts. The most important point was that *conflict is positive*, and that without it, the best solutions or decisions would probably not be identified or presented. The best resolution, solution, or decision could only come about if all participated in building it and engaged in its evolution using a primary metric – that which best achieved their goals and purposes.

Decision Making. We discussed various approaches and offered them as options: (a) leader makes decisions; (b) leader consults with team and makes decisions; or (c) team uses a participative decision making process, either by consensus or majority vote. Usually the teams decided that they needed to use a variety of options depending upon the conflict, problem or situation.

Communications. Team members needed a simple communications process for reaching one another in a timely manner. Each member identified his/her best two methods of contact, as well as the best times. A team communication officer was responsible for agendas and minutes and keeping members up to date between meetings about work and other team matters. It is important to mention that if email is chosen as the primary method of communication, team members must determine when to post emails, day and time, and when team members are

to check emails, day and time. Otherwise, often team members do not check their emails regularly, causing the team distress.

Meetings. Every meeting or work session had an agenda, a simple recording process, an assignment process, a review of work accomplished, and due dates. We encouraged teams to create a one-page form (with copies on file in the portfolio or files) for listing date and time, members present or absent, items for action, a section to record actions taken, an assignment section with due dates, and an agenda for the next meeting. The teams also determined a meeting process and reviewed strategies for keeping members involved.

Recognition and Rewards. Most of our teams enjoyed finding ways to have fun together to celebrate their milestones and successes. We encouraged the district to reward them, but that was not within our control and usually did not happen. So we encouraged them to identify ways that they could reward each other, ranging from grab-bags to taking one another out to lunch.

Humor. We made it clear in our projects that we did not condone inappropriate use of humor to mask criticism. However, it was just as important to help individuals understand that they should not take things too seriously, and we encouraged them to see the funny side, especially if that helps reduce tension and stress.

Policies and Procedures. Teams formalized an operating manual to guide their interactions, processes, and work. Typical components in such a manual were:

- Team charter
- Leadership model
- Organizational chart
- Skills bank
- Peer, team, and conflict assessment instruments and process description
- Meeting agenda/minutes form
- Team communications model
- Problem solving model
- Conflict resolution model
- Decision-making model
- Team roles and responsibilities
- Team member work roles and responsibilities/work packages
- Team change form and process
- Recognition and reward process

Finally, we kept a log of problems, solutions, and dates addressed, and then made them into a lessons learned summary.

Pictures. Teams documented their entire process, digitally if possible. They found many uses for good pictures of their members in action, as well as pictures of the products, humorous events, and more. We provided each team, and sometimes each teacher depending upon the year, with digital cameras.

Leadership. We offer the teams a review of basic leadership theories, especially transforming and self-leadership. We also review other simple models, and the teams then decide on their model and philosophy. We urge them to choose a leader, manager, or coordinator. Some younger teams prefer to have all members participate equally because they do not want to empower one person over others. We prefer a shared leadership model with a formal team manager or coordinator and try to lead teams toward that model.

Team-Building Program

We arranged this program in various ways over the years. Below is simply one possible configuration, and it worked well. An asterisk (*) denotes components of the team manual that were developed as part of this program. Others were developed at the end of this program.

I. Change – A purpose for teams
   - The learning organization requires learning individuals.
   - Schools are learning organizations.
   - Learning – what is it, really?

II. Hidden Agendas – Why team members are participating
   - *Identify each member's own agenda for participating.

III. *Team Vision, Mission, Purpose, Values, and Principles
   - Establish team values.
   - Develop a vision for members, teams, and students.
   - Develop a mission and break the mission into goals and objectives.
   - Describe individual and ultimate team purpose.

IV. Team Building vs. Team Development
   - *Develop individual member knowledge and skills list.
   - *Develop team knowledge and skills bank.
   - Identify gaps in knowledge and skills where building is necessary.
   - Review the difference between "building" and "development."

V. Team Work – What is it? What do teams need to be successful?

VI. Trust and Empowerment – A philosophy for high-performance teams

VII. New and Troubled Teams – (symptomatically one and the same) How can they move beyond the stage and become successful?

VIII. Effective Teams
   - Identify characteristics, traits, attitudes, actions, and behaviors.
   - *Develop team assessment instrument and process.

IX. Effective Team Members

Identify characteristics, traits, attitudes, actions, and behaviors.
*Develop peer assessment instrument and process.

X. Team Member Roles and Responsibilities
*Determine team member health roles and responsibilities.
*Determine team member work roles and responsibilities.
*Determine team member administrative roles and responsibilities.
Use linear charting for simple communication purposes.

XI. Problem-Solving Model
*Identify, adapt, or develop team problem-solving steps and processes.

XII. Conflict Resolution Model
Identify, adapt, or develop team problem solving model and process.
*Identify, adapt, or develop CR assessment instrument and process.

XIII. Decision-Making Model
*Identify, adapt, or develop team decision-making model and process.

XIV. Communication Model
*Identify communication methods and process parameters.

XV. Team Meetings
*Create an agenda/minutes format.
*Develop a meeting process.
*Identify or develop a meeting assessment questionnaire.

XVI. Recognition and Rewards
*Identify recognition criteria and strategies.
*Identify reward criteria and strategies.
*Develop selection process.

XVII. Develop Team Operating Manual Components (not completed above)

A. Policies and Procedures – A guide for the team
1. *Develop attendance policy for being absent or late.
2. *Identify deliverable policies for quality standards, being on time with work, and consequences for delivering late or not delivering at all.
3. *Identify other types of policies and procedures that teams individually determine important for their work process.

B. Log Formats
1. *Create Problem Log.
2. *Maintain Conflict Log.
3. *Generate Lessons Learned Summary.

C. Team Change Format and Process
1. *Create team change form for making changes to products in quality, content, timeline, format or style, etc.
2. *Establish change approval process.

D. Work Packages
1. *Design work package description form.
2. *Develop work packages for each individual or sub-teams.

Teams received a packet or handbook that included information adapted from commercial sources for team-building consultants. Other information came from sources on leadership theory or more practical books on leadership.

Teams were led through the development of the above tools and processes in a two-to-five-day format. When developing interdisciplinary teaching teams using this basic program and process, a three-to-four-day process worked best. A two-day process accomplished everything, but in a very hurried way with less deep processing of the content. Teachers commented that they needed more time. Since the goals were to provide team members the opportunity to get to know each other; prepare them for high-performance teaming; and assist them develop their process tools, vision, goals, and mission, a two-day process was not enough time. The process could be done well in four days, with time for all the above. For some teams, a five-day process was best, but that left some with no work to do. We preferred at least three days or four days – five days was ideal.

Teachers responded very well to this program. When teachers were supported by their school leaders, they followed through and actually used their process. However, when they were not supported, teams were unable to follow through.

Cooperative Learning and Student Teaming

Our basic program helped teachers to prepare students to work in teams. It also provided the knowledge, content, process, and skills for developing student teams and team processes. Students used the basic program in a variety of ways:

> *Basic student teams.* Many of our teachers successfully used the program described above, in its entirety, as a module for career preparation or to begin team operations in their coursework. If they needed a shorter version, they omitted topics such as hidden agendas, trust, and empowerment. Student groups (individually first, then as a team) were asked to describe their ideas about effective team member characteristics, attitudes, and behaviors. Then they developed a brief rubric for assessing team members, with an understanding that it was perception based. They identified 10 descriptors of a well-performing team and designed a brief rubric to assess the team as an entity. The teacher explained that a team was more than the sum of its members, informed them about the problem-solving steps, and gave them a sample problem. The teacher also provided the conflict-resolution and decision-making models as tools to enhance team process and lead to more objective and better solutions.
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> Students needed an agenda/minute format, a meeting or work session process, and an understanding of their roles and responsibilities as team members. They considered them the work at hand and designed either assignments or work packages for each member. Work packages often functioned well with students because their projects accommodated such an approach. Finally, student teams developed their communication model. Students were given a rubric that was used for scoring their completed project. The project was a joint effort; otherwise, there was no need for a team. The project worked even better when it

was multidisciplinary and operated across several teachers and disciplines that were scored by the teacher team.

Cooperative Learning. The team-building program was especially useful for teachers who wanted to create *base group* cooperative learning groups for extended periods of time. Johnson et al. (1998) provide a great resource for formal, informal, and cooperative base groups, including almost everything necessary to implement a wide range of cooperative learning strategies. Base groups are about the creation of long-term, committed, and caring relationships that result from working together over time. In base groups, individual students are supported in learning by their group. Then the students assist each other with assignments, peer teach, and ensure that all members are successful.

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