LINKS simulations resources for instructors are rich and plentiful. LINKS White Papers provide 2- to 4-page “bite-size” counsel, advice, and commentary about important LINKS-related teaching and learning issues. The Instructor Resources section of the LINKS website includes links to instructor FAQs, sample course syllabi, multiple-choice test questions, and throughout-course PPT decks and teaching resources (for example, discussion cases).

My single best teaching tip for potential and current LINKS instructors is to read, study, and “absorb” LINKS White Paper #1, “Best-Practice Teaching With Business Simulations.”

This LINKS White Paper presents LINKS teaching tips for convenient instructor access in a relatively compact (4-page) document. The following teaching tips are organized in the teaching time series from before LINKS begins (course design) through to the end of LINKS events.

**Before LINKS Begins (Course Design)**

A wide range of course design advice may be found in LINKS White Paper #6, “Designing Effective LINKS-Based Courses: Required, Recommended, and Optional Elements.”

**Coaching Students:** “How do I effectively coach students and teams throughout LINKS events?”

Please review LINKS White Paper #8, “Coaching Throughout the Business Simulation Lifecycle.”

**Customizing LINKS For My Course:** “What customization possibilities exist with LINKS?”

Please see these LINKS White Papers: #6, “Designing Effective LINKS-Based Courses: Required, Recommended, and Optional Elements” and #2, “Extreme Customization With LINKS Simulations.”

**Grading Within-Simulation Performance:** “How do I evaluate the performance of teams in LINKS?”

The recommended within-simulation LINKS performance evaluation mechanism is the multi-factor performance evaluation system described in the each LINKS participant's manual. This balanced-scorecard style of performance evaluation system is based on the KPIs (key performance indicators) reported on the first page on each firm's financial and operating results after each LINKS round. These KPIs include financial, operational, and customer-facing performance measures. LINKS students should be well-familiar with these KPIs by the end of their LINKS event.

**Individual Performance Evaluation:** “How can I grade/evaluate the performance of individuals within LINKS teams?”


**Practice Rounds:** “Are practice rounds a good idea at the beginning of a LINKS event?”


**Team Size:** “What is the best size for LINKS teams?”

Considering everything, team sizes of four members appear to be a good choice. Four members are enough to do the LINKS work but not too many to cause significant group management problems. Groups of five are typically a better choice than groups of three, if you have a choice. However, for smaller LINKS simulations (Enterprise Management, Marketing Tactics, Marketing Principles, Service Quality Management, Procurement Management, and Supply Chain Management Fundamentals), groups of size three are fine.

Team sizes of three-five students and five-six teams per LINKS industry serve most LINKS instructors well. True, the nature of the experience varies with team size, but there are no fundamental problems associated with teams as small as three or as large as six. As team size increases, team
management issues assume greater importance. And, larger-sized teams create additional logistical problems involving conflict-free meeting times in academic degree-granting programs. Larger-sized teams do, of course, simulate project teams encountered in everyday business life.

With larger-sized teams, the need to include individual-student performance assessment in your course grading system increases. LINKS White Paper #5, “Individual Performance Assessment in Business Simulations,” discusses individual performance assessment possibilities.

Remember: LINKS industries consist of 2-8 firms. Larger class sizes are accommodated with simultaneous, parallel industries.

Early in LINKS Events

Clueless Team:  “What do I do with a team that seems to be ‘clueless’ about LINKS?”

Spend time with the team in the style of a Presidential Review Meeting. (See LINKS White Paper #9, “Planning and Executing Effective Presidential Review Meetings.”) Ask a lot of questions of the form: “How is your firm doing?” “What is happening in your industry?” “What are you doing and why?”

Usually, “clueless” firms (and individual students): (1) haven’t prepared and haven’t really read the manual; (2) spend little time on LINKS; and, (3) have little/no competitive information about their LINKS industry (i.e., they order little or no research studies).

Strongly encourage such “clueless” students to work through the LINKS tutorials for your LINKS simulations variant. And, have another Presidential Review Meeting with such a team after the next decision round, to review progress.

Presidential Review Meetings:  “What’s the best way to conduct presidential review meetings?”

Please review LINKS White Paper #9, “Planning and Executing Effective Presidential Review Meetings.”

Relatively “Inactive” Teams:  “In the first couple of rounds, several of my teams have made few decision changes and they are doing quite well in LINKS. What advice do you have for me?”

Ask these teams directly about their strategy. Can they articulate a reasonable and thought-out strategy? If so, continue to watch them. If not, pursue them in much more detail.

Use the LINKS After-Action Review described in LINKS White Paper #11, “LINKS After-Action Review,” with all of your LINKS teams to encourage a continuing flow of (short) writings from each firm.

And, your LINKS event schedule should include some mid-event enhancements (cost increases, additional product/service activation, and/or activating an additional region). All of these enhancements will challenge firms that have been making few decision changes.

Such relatively “inactive” firms will be challenged when they encounter your LINKS-related written assignments (e.g., mid-event report and final written report). And, if you have written examinations in your course, including some LINKS-related questions in these examinations can be wise. The LINKS multiple-choice test questions (accessible in the Instructor Resources on the LINKS website) provide further testing possibilities.

Source and Quality of Initial Decisions:  “How were the original decisions in LINKS determined? What weight should be given to them?”

All initial LINKS decisions are what they are. There is no implied “grand” strategy or design in these decisions. (All firms have the same decisions in place as teams assume managerial control of their LINKS firms.) It is not necessarily clear that any particular decision is “wise.” Overall, the initial set of decisions lead to positive profitability.

During LINKS Events

Managing the Non-Performing Group Member:  “What hints do you have for managing a non-performing group member?”

Here are some suggestions from Ginger Howerton (University of Texas at Dallas, Masters in International Management Studies program) for managing a non-performing “lazy” team member. This advice appears to be useful for all situations involving groups. It would appear to be especially valuable reading for participants in team-based simulations where the group-work nature of the simulation extends over a lengthy period of time.

A key leading to team success is participation by all members. The first challenge is to identify the person who has the potential for being “lazy.” Signs of a potential “lazy” team member include: (1) a person who sits back in his chair and offers no sign of active participation in the group’s discussion; (2) a person who has a conflict with all attempts to identify group meeting times; (3) a person who can not understand the objective or assignments in the course and generally sees no value to the course; (4) a person who monopolizes team meetings with personal accounts of her/his active social life; (5) a person who fails to complete assigned work on time or ever; and, (6) a person who frequently calls other team members to get guidance on how to complete her/his portion of the assignment.
Once the “lazy” team member has been identified, immediate and decisive intervention must be taken to save the team from frustration and resentment. To engage the “lazy” team member will require patience and consistency of the entire team, but ultimately, one person will need to continually pressure the potentially “lazy” team member into participation. Some useful techniques include the following:

- Identify the “lazy” person’s strengths and weaknesses. Stroke the strengths and supplement his weaknesses by another team member’s strengths.
- Pair the “lazy” person with another team member whose strengths include motivation, persuasion, and accountability skills.
- Set very specific expectations and offer to demonstrate how to carry out the project or map out an approach to complete the project.
- This type of person may suffer from low self esteem, so frequent praise and encouragement by the team may stimulate performance.
- Contact the “lazy” person frequently to keep her/him on track and encourage success.
- Allow the person to identify one meeting time that meets her/his needs only and then require him to attend meetings that meet the scheduling needs of the other team members.
- Allow the “lazy” member to share her/his portion of the project first, since often a short attention span precludes the person’s participation after a long meeting.
- Engage the “lazy” person in participation by requiring each team member to identify strengths and weaknesses of other team members’ contributions to the project.
- Often, when the “lazy” team member feels successful early in the group sessions, participation in future projects comes more naturally.

Many reasons for “laziness” exist. Unfortunately, many times the person truly isn’t lazy, but paralyzed by the amount of work, fear of failure, or true lack of understanding. Although understandable, these explanations for lack of participation can not be tolerated because they only lead to frustration by all involved. Encouragement and role modeling are the best motivators.

**Price Wars and Remedies:** 
*“Many of my firms are engaging in a profit-threatening price war. What should I do?”*

The root cause of price wars is undisciplined students who don’t attend to the profitability consequences of their customer-facing programs especially with regard to pricing decisions, configurations and associated variable costs, and margin management.

Excluding gross errors in LINKS inputs, there are two principal paths that lead to price wars. First, reconfigurations occur which dramatically increase variable costs without corresponding increases in prices. Margin reductions mean that profitability is difficult or impossible to achieve, even with “hoped-for” (fantasized?) large increases in volume. Second, students mindlessly pursue volume without regard to profitability considerations, ultimately leading competitors to feel compelled to match low prices to maintain their own sales volume. (Perhaps it’s the old business “wisdom” at work: “Volume will save us.”)

Good instructor practice in the face of price wars includes initiatives, efforts, and actions before-and after-the-fact.

**Before-The-Fact Actions:**

1. Advise students (in your syllabus) that profitability matters! Remember the Klingon proverb: “Volume without profit has no honor.” And, “the last one to go bankrupt doesn’t win!”

   For your within-simulation grading component (presumably based on the LINKS multi-factor performance evaluation system), you may wish to include the proviso that “consistent” lack of profitability will lead to a within-simulation grade of no higher than “average” regardless of a firm’s standing on other performance metrics (such as market share).

2. While not prohibiting price decreases, adopt the protocol that students must seek your “CEO” approval for any price reduction. The basis of this approval is a “modest” pro-forma financial analysis of predicted short- and long-run profitability after a proposed price decrease. Carefully review the industry demand and market share assumptions/forecasts included in such a pro-forma financial analysis. Question students on the empirical basis for such industry demand and market share assumptions and forecasts (e.g., which LINKS research studies were used to form such assumptions and forecasts?). And, query students about their assumptions regarding how competitors will react to a price reduction. Instructors might require such an analysis to be submitted several days before a LINKS input submission deadline, to permit suitable time for review and perhaps the scheduling of a meeting with the firm proposing a price reduction.

3. In your LINKS schedule, include the provision for activating at least one additional product (one additional service in the LINKS services simulations) fairly early in your LINKS schedule. This provides the opportunity for firms to customize offerings to particular regions, thus tending to lead to more niche offerings priced at higher levels.
4. In your LINKS schedule, include the provision for activating one or more additional regions as your event unfolds. Additional regions provide growth opportunities for everyone, even lagging firms. And, growth opportunities tend to discourage price wars.

**After-The-Fact Actions:**

1. During regularly-scheduled private “Presidential Review Meetings” throughout your LINKS event, emphasize profitability in your discussions with your students, particularly for lagging firms. Quiz students regularly on their plans to improve long-run profitability.

2. Require that any unprofitable firm after any LINKS round schedule an immediate private “Presidential Review Meeting” with the instructor to review the firm’s performance. Alternatively, require that any unprofitable firm must respond to the following memo from the “CEO”: “Profits are unacceptably low. Please provide a clear, fact-based plan for dramatically improving profitability soon. Management teams of firms unable to generate profitability are subject to termination/firing. No one wins in business by being the last to go bankrupt!”

**At The End of LINKS Events**

**End-Gaming Management:** “Are there any special things to think about regarding potential end-gaming behavior of the students as LINKS concludes?”

End-gaming behavior is always an issue with large-scale management simulations. Will students see the "end" coming and behave "weirdly" (i.e., not in the long-run interest of their firms) to try to “cash in” at the last minute? The concern here is about inappropriate last-minute cost-cutting and other myopic (short-run) behavior that is inconsistent with improving the long-run performance of a firm.

Various defense mechanisms exist to avoid or minimize end-gaming behavior in LINKS. Possibilities include:

- Various on-going communications possibilities (exhortations?) from LINKS instructors to their students emphasizing the LINKS prime directive: "improve the long-run performance of your firm." My usual wording here is "treat your LINKS firm as a cherished asset that you'd like your grandchildren to inherit."

- Having a published game-run schedule with "n" rounds but stopping the simulation after round "n-1." I have used this approach successfully in my own LINKS teaching in regular degree-granting academic programs. When I announce that the simulation has concluded, my experience is that a substantial majority of students are pleased while a small minority of students are disappointed. (Some students will express astonishment that the simulation has ended abruptly! Apparently, the large amounts of regular within-simulation feedback can become narcotic-like.) My public statements on the matter include “it’s now time to devote your attention to the final presentation/report” and/or “we’ve reached the point of diminishing learning returns and it’s time to move on to other course-related matters.” As it turns out, I recently did such a thing in a week-long executive education program and it worked fine. The seminar participants had more time to prepare their final LINKS presentations and the presentations were the best that I’ve seen in executive education contexts with limited time to prepare a thoughtful, insightful final LINKS presentation.

- Have a final presentation/report of some form and forcefully remind students that they'll be judged on how they have improved their firm's long-run performance ... including leaving their firm in good shape for their (hypothetical) successors.

- Use a final run-out of two rounds to permit the long-run performance of the firms to "shine through." Such a double-run of LINKS needs to be pre-announced so that LINKS students are prepared for it. My approach here is to pre-announce that the final inputs will remain constant through two (final) runs of LINKS. In my experience, a final double-run is sufficient to reveal (and discourage) any "wild and weird" last-minute behavior of the firms. Usually, a final double-run isn’t that crucial since most firms have more-or-less reached a relatively stable market presence by the end of a LINKS event. Even when I haven’t pre-announced a final double-run, I often do run the simulation an extra time at the end for my private viewing (without sharing the extra-run results with the students), just to see if anything “drastic” occurs. This can provide helpful insight into questions that might be posed to LINKS teams during and after their final presentations about their end-game management.