THE ANATOMY OF A SUCCESSFUL PROJECT

Exploring the Tension, Synergy and Symbiosis Among Architecture, Engineering and Educational Planning in the Design Process
POP QUIZ!

This is an 10 question quick quiz. Would we appreciate everyone participating by responding by text messaging or with your computer. Answers will be compiled and viewed immediately. Thank you.
Tell us more about yourself. Which of these are you?

- Architect/Engineer
- Educator
- Facility Planner
- Other

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Do the majority of your clients view Educational Specifications? If you client, how do you view Ed. Specs?

Vitally important to the design process

Somewhat important

Not very important

Never heard of them

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A client don't or rarely use Ed. Specs, or your client doesn't or rarely use Ed. Specs., what is the major reason?

- Value not worth the additional cost and trouble to generate
- Aren't really used by design professionals in the design process
- Create expectations that aren't deliverable
- Never heard of them or why they are important

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When you do use Ed. Specs. on a major project, who normally gets them?

- Client/School district
- Architectural firm
- Third party educational facility planner

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When Ed. Specs. are generated, how often do you refer to them during the design process?

- All the time
- Periodically
- Rarely

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Peer(s) participate in the visioning and/or concept design charrette

Always

Sometimes

Rarely

Never

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Generating concept and schematic designs, how does collaboration among architect, engineer, and facility planner take place?

- Regularly scheduled, as a matter of course
- As needed
- Rarely, if ever

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Title: Design development and construction documentation, how often a facility planner involved?

Options:
- Regularly scheduled, as a matter of course
- As needed
- Rarely, if ever

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Which interaction is there between engineering professionals and the planner during the design process?

Regular interaction throughout the design process

Occasionally, and usually only if there is a question or complaint

Rarely, if ever
This list contains some concerns/complaints about facility planning. What item would you consider to be the most prevalent issue?

- Sometimes too "pie in the sky" and out of step with what's happening in the school
- Budget considerations are often under-emphasized or even overlooked
- Planner doesn't understand the "nuts and bolts" constraints that architects and engineers are under when it comes to design
- Planner participation is limited during the actual design process

Educational Specifications are too generic to provide adequate design guidelines

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Some Classics

Possibly due to lack of synergy and/or symbiosis....and maybe a whole lot of tension!
Engineering Flowchart

Does it move?

No

Should it?

No

Problem

Yes

No

Problem

Yes

Should it?

No

Problem

Yes

No
A doctor can bury his mistakes but an architect can only advise his clients to plant vines.

Frank Lloyd Wright
www.quote-coyote.com
"Please be careful when you put revision clouds on your drawings, some of the contractors do not understand."
FAILED ON A NUMBER OF LEVELS!
AS A RECAP...

• No Educational Specification
  • Original design of drop ceiling with lay-in florescent fixtures not compatible with room use
• Mechanical design not compatible with original ceiling or lighting system designs
  • Required elimination of drop ceiling and complete rework of lighting design
• Could all have all been avoided by having an Educational Specification and with better communication among architects and engineers
Defining “Educational Specifications”

“The purpose of educational specifications is to define the programmatic, functional, spatial, and environmental requirements of the educational facility, whether new or remodeled, in written and graphic form for review, clarification, and agreement as to scope of work and design requirements for the architect, engineer, and other professionals working on the building design.”
Some Additional Definitions

**SYNERGY** – the interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects.

**SYMBIOSIS** – a mutually beneficial relationship between different people or groups.

**TENSION** – a balance maintained between opposing forces or elements.
Many of Us Have Seen This Before...

This tells us when things should happen...
But it doesn’t tell us who should participate
Client, et al.

**Who?**

- **Educators**
  - Including board members, administrators, teachers, support staff
- **Students**
- **Parents**
- **Community**
  - Including politicians, business owners, civic group leaders, community organization members, general public

**Roles & Responsibilities**

- The “boss”
- Vision of the educational program
- Educational program requirements
- Types, purpose, capacity, and use of spaces
- Spatial relationships
- Infrastructure needs
  - Including plumbing, HVAC, technology, electrical
- FF&E requirements
## Educational Facility Planner

### Who?

- ALEP - Accredited Learning Environment Planner

### Roles & Responsibilities

- Acts as an information resource
  - 21st Century and other innovative teaching and learning models
  - Space characteristics for educational delivery
- Assist client in translation of educational vision and program into written and graphic form
  - Educational Specifications
- Acts as liaison, facilitator, and “translator” between client and design professionals
- Monitors the total design process and assists designers in order to insure educational design integrity
Architect

Who?

• Licensed as an architect
  • ALEP - Accredited Learning Environment Planner

Roles & Responsibilities

• Assists the educational facility planner during the educational visioning stage
• Takes the “reins” of design beginning with the concept design stage
  • Assisted by the educational facility planner
  • Assisted by engineers and consultants as necessary
• Uses the educational specification as a “road map” for design throughout the design process
• Connects with the client, educational facility planner, engineers, and consultants on a scheduled basis throughout the entire design and construction process
## Engineer

### Who?

- Licensed as an engineer
- ALEP - Accredited Learning Environment Planner

### Roles & Responsibilities

- Assists the educational facility planner during the educational visioning stage
- Works in conjunction with the architect beginning with the concept design stage
  - Assisted by the educational facility planner
- Uses the educational specification as a “road map” for design throughout the design process
- Works with the architect to connect with the client, educational facility planner, and consultants on a scheduled basis throughout the entire design and construction process
Barriers To Communication

• Uninterested, detached client or the opposite….a “my way” client
• No unifying focus – no educational facility planner and/or educational specification
• Architect and architecture are “boss”, rather than the educational plan
• Engineers & consultants not part of, or not really interested in, the visioning and concept design process
• Engineers & consultants not part of the design “team” but considered ancillary
• Educational facility planner finished when schematics begin
• No regularly scheduled feedback/communication with all stakeholders throughout the design and construction process
You will likely agree that this does need to happen... When is the best time for this to occur?
You May Not Agree.....But.....

The earlier in the process you engage the need to be budget-conscious, the better!
This includes starting with visioning.

One of the greatest “assassins” of enthusiasm is to have a client team develop a “dream” only to have it later decimated by the specter of budget.

Some may think that introducing budget too early in the process will hinder creativity. We think just the opposite. What do you think and why?
INTEGRATION CHECKLIST
FOR THE CLIENT

✓ Emphasize in the RFP the need for an architecture and MEP engineering team that has prior experience working together on similar projects

✓ Include all stakeholders (Board, Administration, Staff, Parents, Students, Politicians, Community, Business and Civic Leaders) in the process

✓ Develop Educational Specifications or require your design team to develop them for and with you

✓ Insist that an educational planner (preferably an ALEP) be involved throughout the design process.....including through construction administration

✓ Insist that regular budget analyses take place to assure that the project is realizable without extensive value engineering "after the fact"

✓ Keep an open mind, be flexible, and welcome new ideas and concepts

✓ Understand the need for decision-making in a timely manner
FOR THE ARCHITECT

✓ Understand that the educational program comes first....not the architecture
✓ Understand the importance of Educational Specifications as an integral design tool to be used as a guide throughout the design process
✓ Establish a seamless working relationship with your MEP engineering team
✓ When making architectural decisions....always consider engineering implications....and, of course, educational implications
✓ Develop communications protocols with all members of the design team
✓ Realize the importance and usefulness of the educational planner throughout the design process
✓ Conduct regular budget analyses and understand that budgets are finite and only present options that are realizable within the client’s budget framework
✓ Keep an open mind, be flexible, and welcome new ideas and concepts
✓ Understand the need for decision-making in a timely manner
FOR THE ENGINEER

✓ Understand that the educational program comes first….not the engineering
✓ Understand the importance of Educational Specifications as an integral design tool to be used as a guide throughout the design process
✓ Establish a seamless working relationship with your architect
✓ When making engineering decisions….always consider architectural implications….and, of course, educational implications
✓ Develop communications protocols with all members of the design team
✓ Realize the importance and usefulness of the educational planner throughout the design process
✓ Conduct regular budget analyses and understand that budgets are finite and only present options that are realizable within the client’s budget framework
✓ Keep an open mind, be flexible, and welcome new ideas and concepts
✓ Understand the need for decision-making in a timely manner
FOR THE EDUCATIONAL PLANNER

✓ Establish a seamless and collaborative working relationship with all members of the design team; client, architect, engineer, and consultants

✓ Insist that Educational Specifications are an integral design tool to be used as a guide throughout the design process

✓ Develop regular communications protocols with all members of the design team

✓ Be an integral part of the design team throughout the entire design process, including construction administration

✓ Act as a resource to all members of the design team, especially with regard to space requirements to enhance teaching and learning

✓ Understand the budget constraints of the project and their impact upon options presented to the client for consideration

✓ Keep an open mind, be flexible, and welcome new ideas and concepts

✓ Understand the need for decision-making in a timely manner
THE GLUE THAT HOLDS IT ALL TOGETHER

Educational Planner
Client
Engineering
Budget
Architecture
Project
EDUCATIONAL SPECIFICATIONS