

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

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

Vitally important to the design process

Somewhat important

Not very important

Never heard of them

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

ing that you do use Ed. Specs. on a major project, who normally get them?

Client/School district

Architectural firm

Third part educational
facility planner

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

All the time

Periodically

Rarely

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

Always

Sometimes

Rarely

Never

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

Regularly scheduled, as a matter of course

As needed

Rarely, if ever

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

© Poll Everywhere

During design development and construction documentation, how often is a facility planner involved?

Regularly scheduled, as a matter of course

As needed

Rarely, if ever

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

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

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PolleEv.com/app

Following list contains some concerns/complaints about facility planning. From that list, which 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

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Poll Everywhere

Some Classics

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





Engineering Flowchart







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

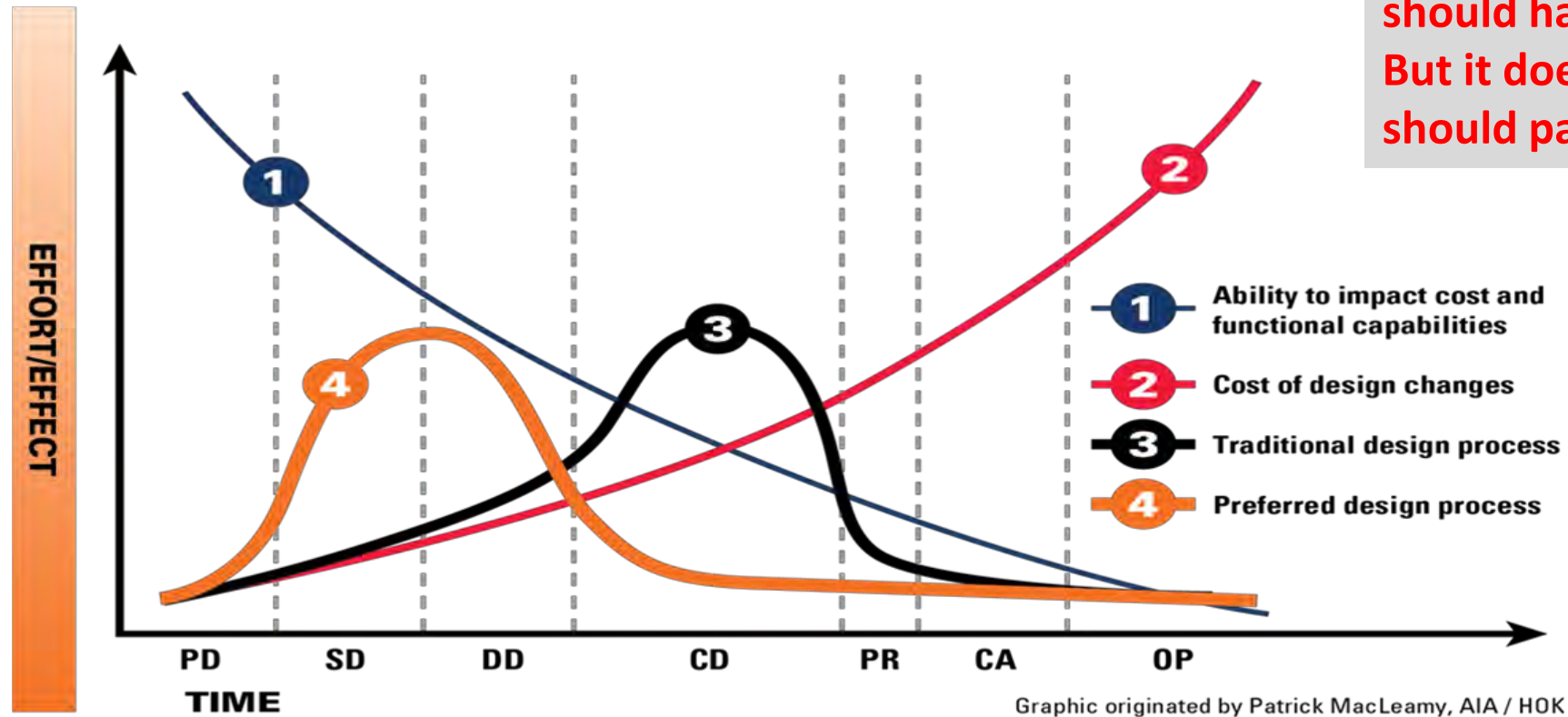
SYNERGY – the interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects.

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



KEY

PD: Pre-design

SD: Schematic design

CD: Construction decommentation

PR: Procurement

CA: Construction Administration

OP: Operation

ROLES & RESPONSIBILITIES

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

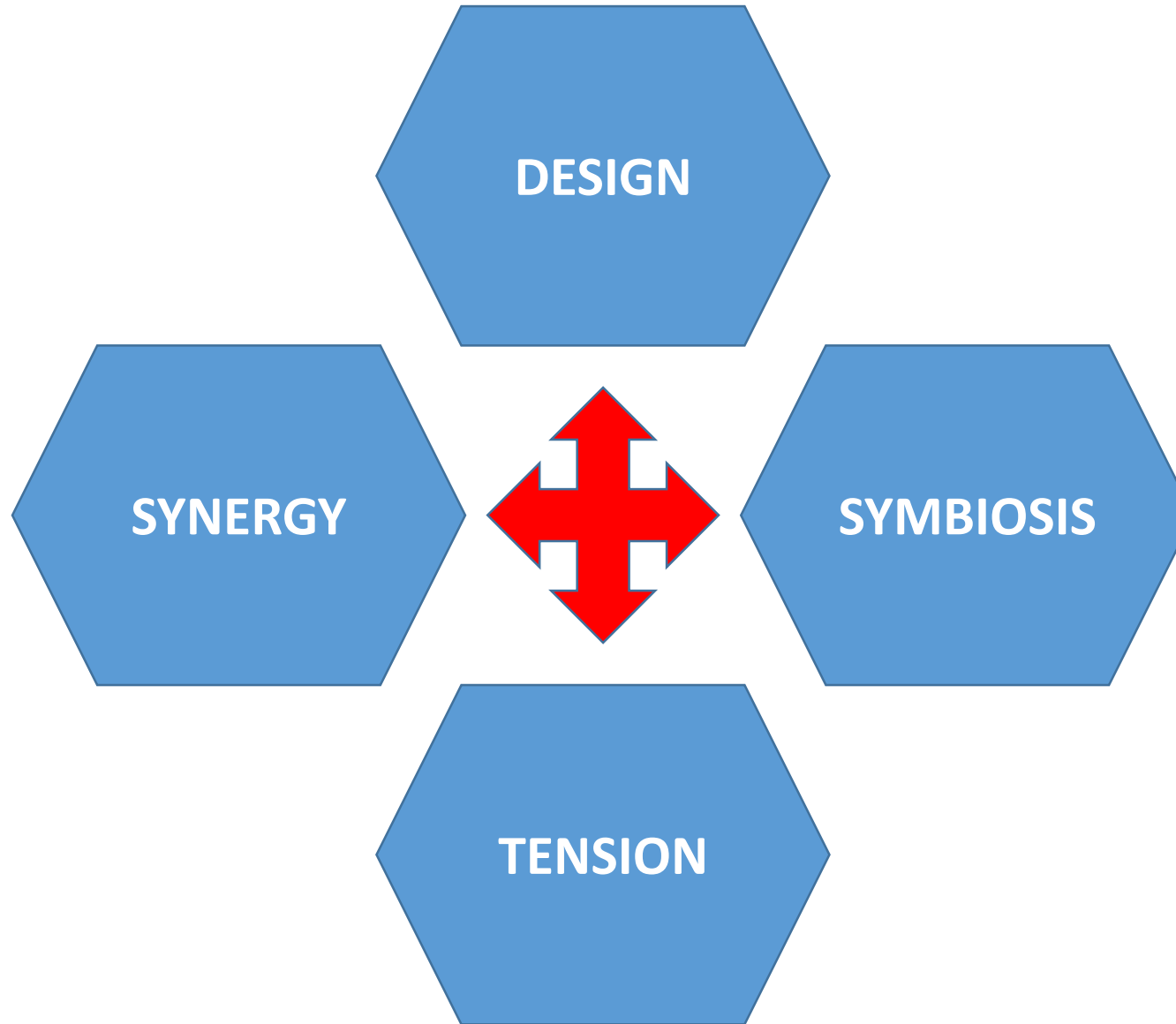
Engineer

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

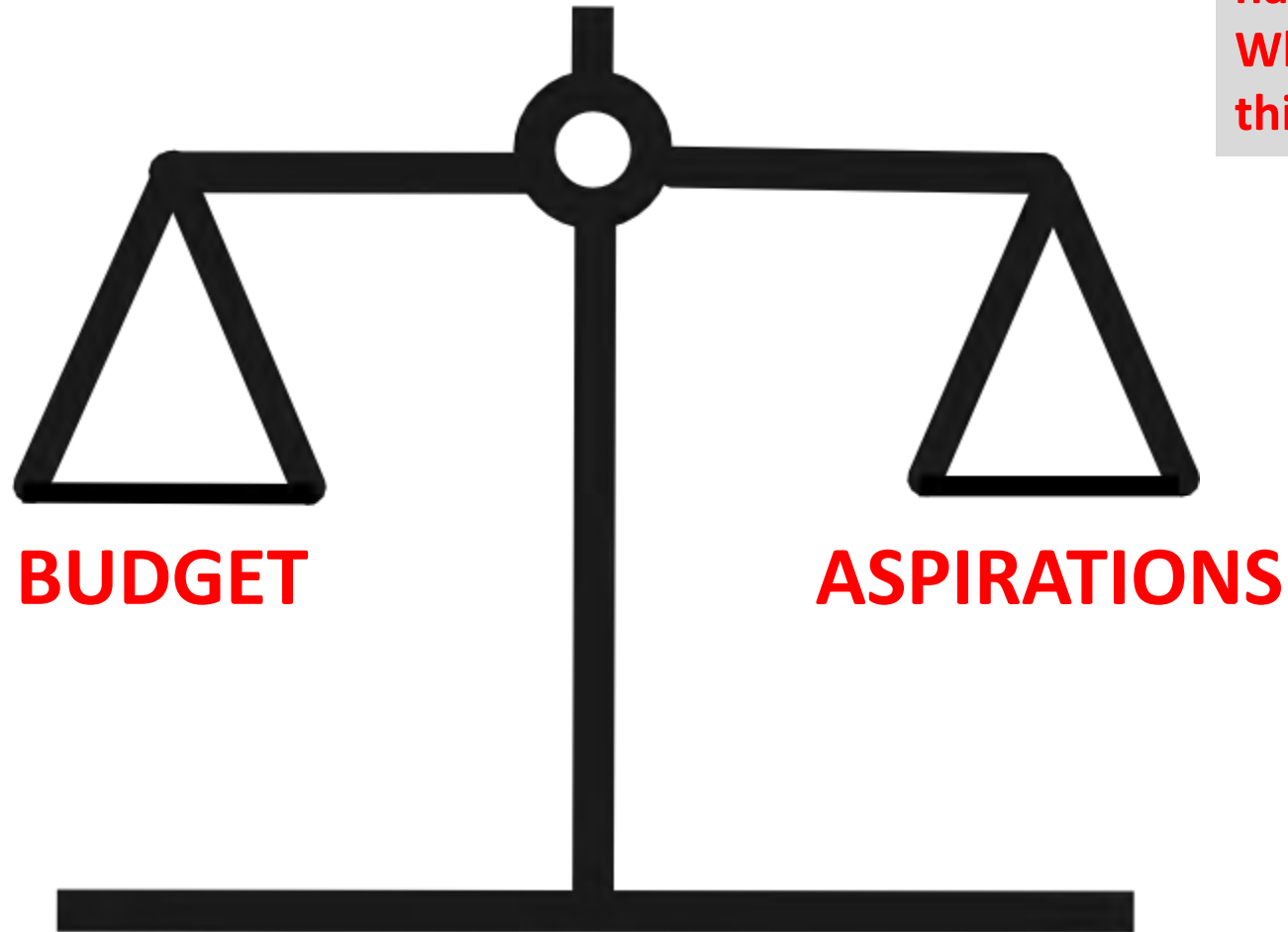


Barriers To Communication

- 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



Need for Balance



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

