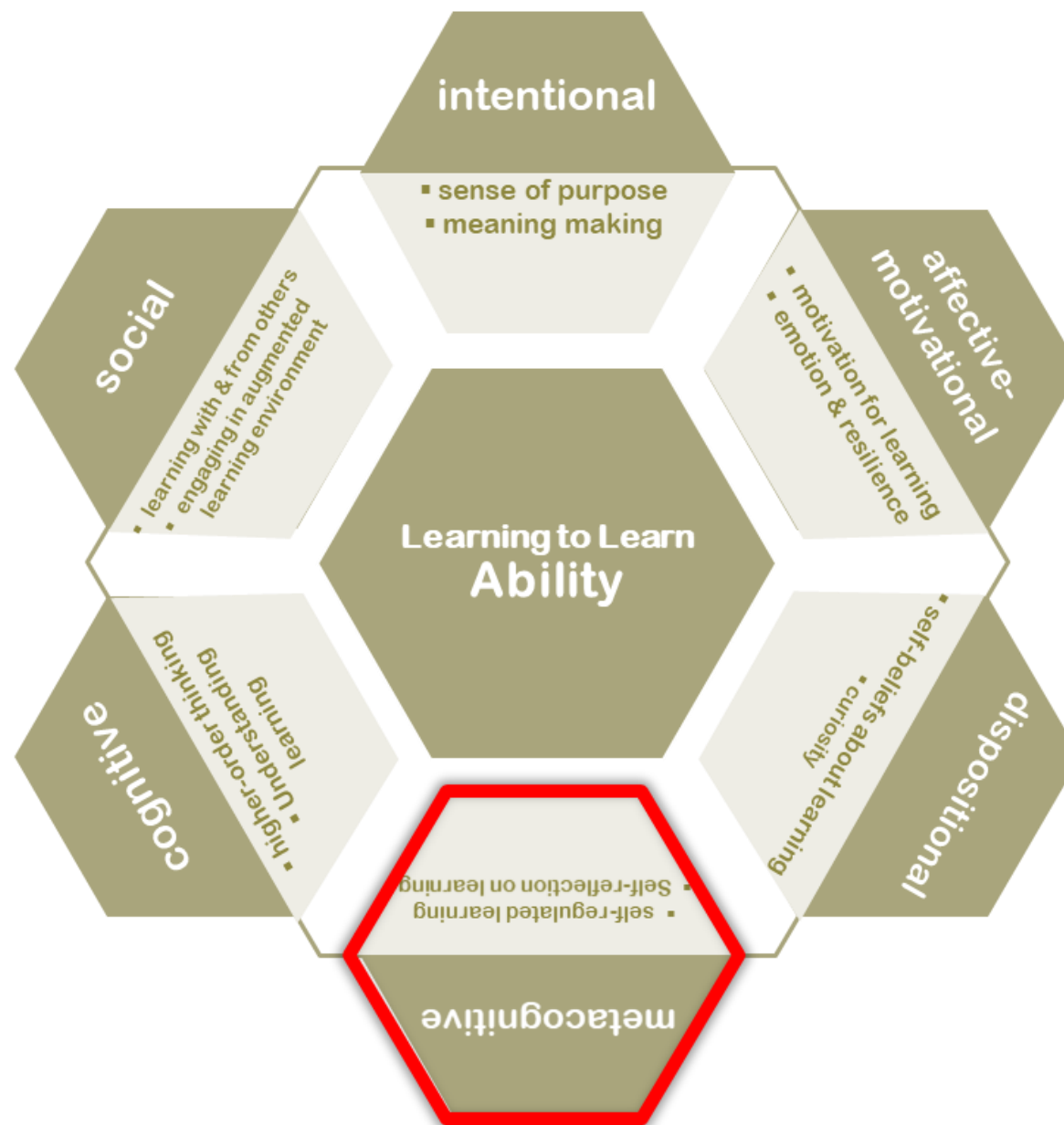


“

The **metacognitive dimension** represents the reflective aspect of the learner, which evaluates and regulates how the learner learns.

PolyU L2L Model



Self-Regulated Learning

What does it mean?

“Self-regulated learning refers to **one’s ability to understand and control one’s learning environment**. Self-regulation abilities include **goal setting, self-monitoring, self-instruction, and self-reinforcement** (Harris & Graham, 1999; Schraw, Crippen, & Hartley, 2006; Shunk, 1996)... Self-regulation is a self-directive process and set of behaviors whereby learners **transform their mental abilities into skills** (Zimmerman, Bonnor, & Kovach, 2002) and **habits through a developmental process** (Butler, 1995, 1998, 2002) **that emerges from guided practice and feedback** (Paris & Paris, 2001).”

Quoted from TEAL Center Fact Sheet No. 3 Self-Regulated Learning:
https://lincs.ed.gov/sites/default/files/3_TEAL_Self%20Reg%20Learning.pdf

Self-Regulated Learning

different models

Zimmerman's Cyclical model (2000)

- Forethought phase
- Performance phase
- Self-reflection phase

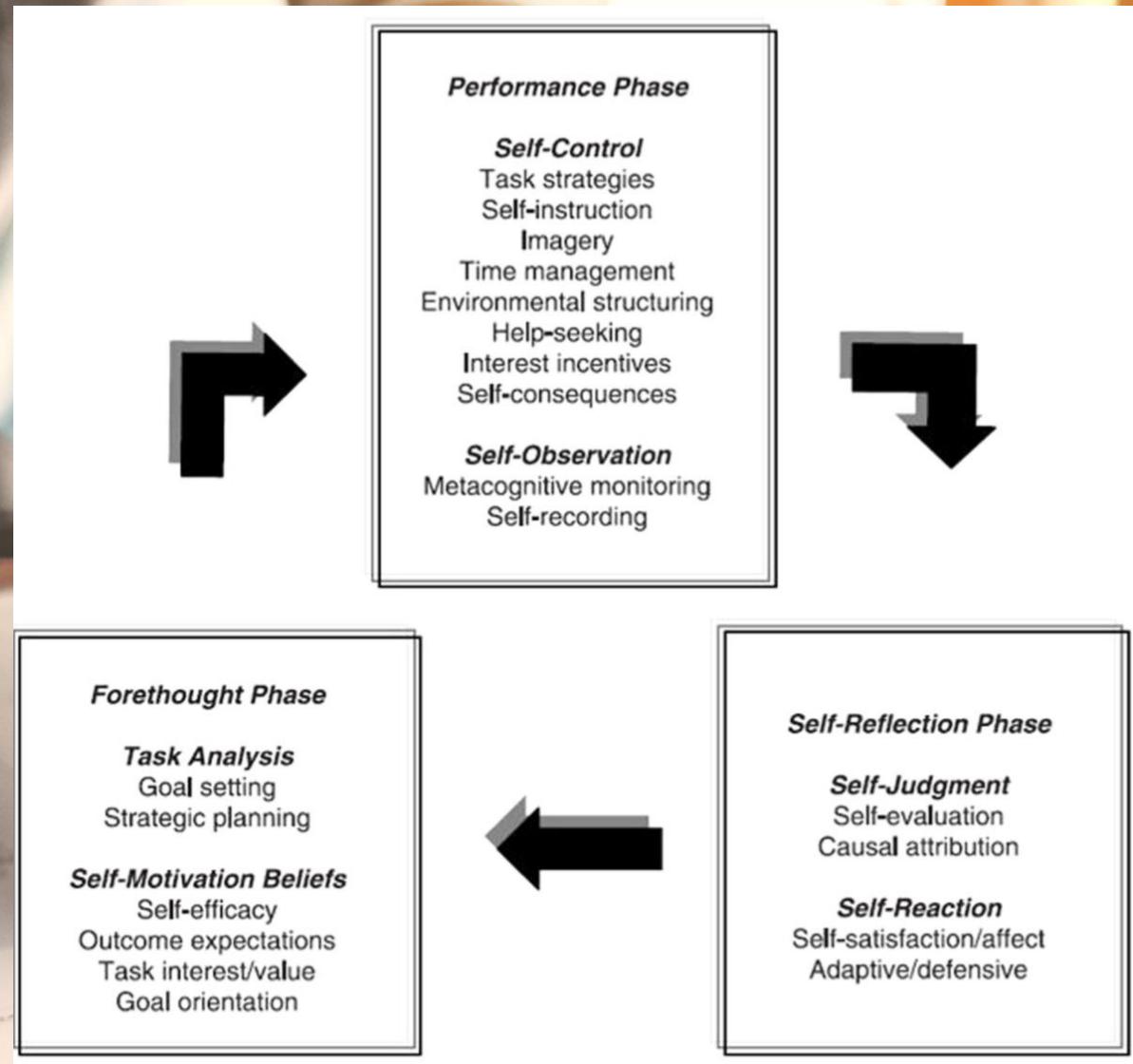
Pintrich's SRL model (2000)

- Forethought, planning & activation phase
- Monitoring phase
- Control phase
- Reaction & reflection phase

Hadwin et al's SSRL model

- Planning phase
- Monitoring & control phase
- Regulating phase

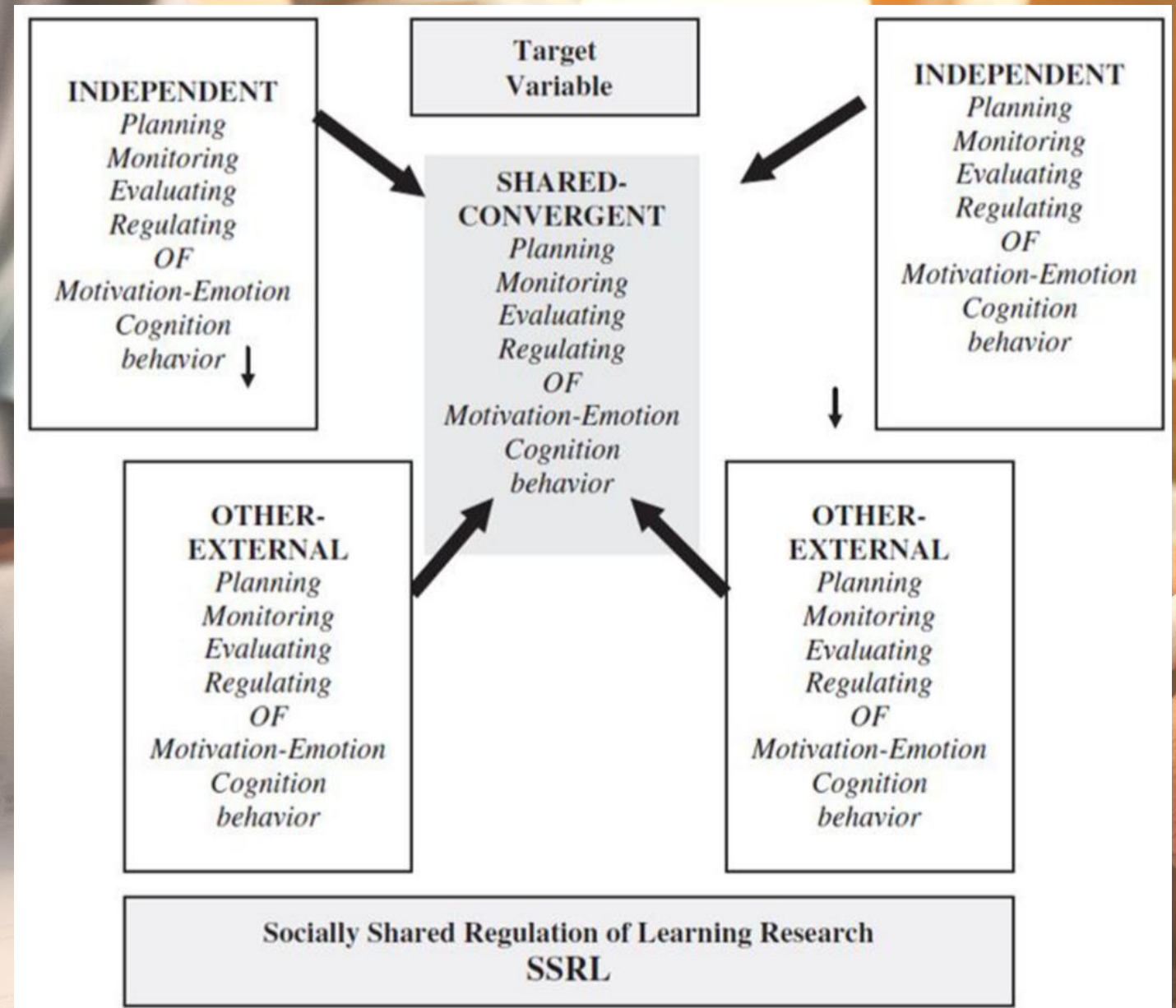
Zimmerman's Cyclical SRL model (2000)



Pintrich's SRL model (2000)

Phases	Areas for regulation			
	Cognition	Motivation/affect	Behavior	Context
1. Forethought, planning, and activation	Target goal setting	Goal orientation adoption	[Time and effort planning]	[Perceptions of task]
	Prior content knowledge activation	Efficacy judgments	[Planning for self-observations of behavior]	[Perceptions of context]
	Metacognitive knowledge activation	Ease of learning judgements (EOLs); perceptions of task difficulty Task value activation Interest activation		
2. Monitoring	Metacognitive awareness and monitoring of cognition (FOKs, JOLs)	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help Self-observation of behavior	Monitoring changing task and context conditions
3. Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing motivation and affect	Increase/decrease effort	Change or renegotiate task
			Persist, give up Help-seeking behavior	Change or leave context
4. Reaction and reflection	Cognitive judgments	Affective reactions	Choice behavior	Evaluation of task
	Attributions	Attributions		Evaluation of context

Hadwin et al's SSRL model (2011) for team learning



Self-Regulated Learning

commonalities across
different models

Zimmerman's Cyclical model (2000)

- Forethought phase
- Performance phase
- Self-reflection phase

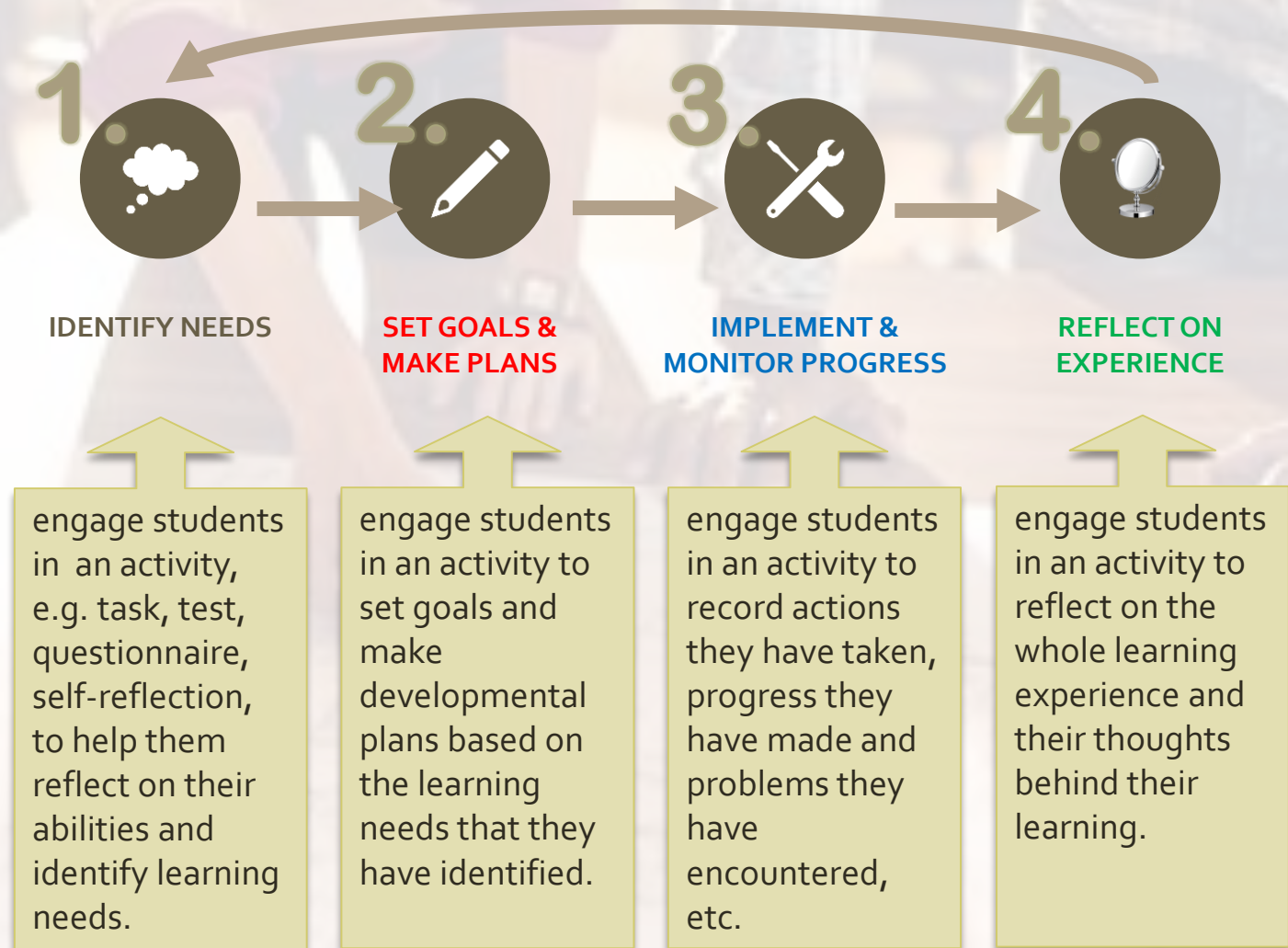
Pintrich's SRL model (2000)

- Forethought, planning & activation phase
- Monitoring phase
- Control phase
- Reaction & reflection phase

Hadwin et al's SSRL model

- Planning phase
- Monitoring & control phase
- Regulating phase

SRL phases & activity ideas



Strategies to identify learning needs subject assessment

Criterion C: Thinking critically

Students should be able to:

- identify ideas, events, issues or arguments
- analyse a range of sources in terms of origin and purpose
- identify different views and their implications
- make connections between information to give an opinion.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1-2	The student: • makes a limited attempt to identify the main points of ideas, events, issues or arguments • identifies the origin and purpose of some sources • identifies some different views • makes connections between information to give limited opinions.
3-4	The student: • identifies some main points of ideas, events, issues or arguments • identifies the origin and purpose of sources • identifies some different views and suggests some implications of these • makes connections between information to give simple opinions.
5-6	The student: • identifies the main points of ideas, events, issues or arguments • recognizes the origin and purpose of sources • identifies different views and their implications • makes connections between information to give opinions.
7-8	The student: • identifies in detail the main points of ideas, events, issues or arguments • analyses a range of sources in terms of origin and purpose • clearly identifies different views and their implications • makes connections between information to give a relevant opinion.

Strategies to identify learning needs

self-assessment on learning ability

Selective popular instruments:

- **Study Process Questionnaire (SPQ)**, used to determine the approach of students to learning, learning motives and strategies.
- **Motivated Strategies for Learning Questionnaire (MSLQ)**, developed to measure the types of learning strategies and academic motivation used by college students.
- **Learning and Study Strategies Inventory (LASSI)**, designed to gather information about learning and study practices and attitudes.

Strategies to plan learning

learning contract

Individual Academic Internship Learning Contract Bethel University

ALL REQUESTED INFORMATION MUST BE COMPLETED BEFORE THIS FORM WILL BE PROCESSED.

Name: _____ ID#: _____ Class (circle one): Jr. Sr.

Email: _____ P.O. #: _____ Phone: _____

Cum GPA: _____ Major GPA: _____ Sponsoring Department _____

Academic Discipline of Internship: _____ Organization: _____

Organization Address: _____

Site Supervisor's Name: _____ Phone: _____

Site Supervisor's Title: _____ Email: _____

Internship Term (circle one) Fall Interim Spring Summer Start Date: _____ End Date: _____

Please check the requirements of your program before selecting.

Credits (circle one) 1 (minimum 45 hours) 2 (minimum 90 hours) 3 (minimum 135 hours) 4 (minimum 180 hours)

Pay Rate: _____ Hours/week: _____ Total Hours to be spent at site: _____
(if applicable)

Learning Objectives

Skills, competencies you intend to learn/improve

- 1.
- 2.
- 3.
- 4.

Strategies/Resources/ Tasks

Your plan to achieve learning objectives.*

- 1.
- 2.
- 3.
- 4.

* A DESCRIPTION OF THE INTERNSHIP DUTIES MUST BE ATTACHED.

I have discussed and negotiated with the student the in-site learning component as indicated in this Learning Contract. I am able to support and facilitate the learning objectives and strategies/resources/tasks of this learning contract.

Site Supervisor

Date

I have discussed and negotiated with the appropriate individuals the details of the learning contract. The components of each section meet or exceed the requirements for an academic internship as defined by Bethel University.

Student

Date

(see back)

February 16, 2015

source: Bethel University

<https://www.bethel.edu/registrar/regISTRATION/undergrad/files/internship-contract.pdf>

Not just internship but it can also be used for project or any task which runs across a long period of time

Strategies to plan learning

learning contract

Learner: Samantha Barrow

Course Topic: Data Management Across Systems

Program Start Date: January 1st, 2016

Objectives <i>What are you going to learn during this course?</i>	Resources and Strategies <i>How are you going to learn? What resources will you use? What strategies do you plan to implement?</i>	Evidence of Learning <i>How are you going to demonstrate learning? List specific tasks or projects.</i>	Assessment <i>How are you going to prove that you have mastered the objective?</i>	Evaluation <i>How will your overall learning be evaluated?</i>	Target Date for Completion
Determine what factors drive the selection of data management systems	Select 2 companies from an industry of interest and investigate their process for data management; Contact both agencies via email/phone	5 minute presentation of findings and facilitated discussion	Student will be able to comprehensively discuss at least 3 factors that influence choice of systems; respond to peer inquiries	Verbal feedback provided by peers, written evaluation provided by instructor	01/11/2015
Identify major risk areas in data management across multiple sources; begin identifying solutions	Research companies that provide data management services, focusing on recent innovations to combat common issues; brainstorm personal experiences w/ the topic	Group project w/ each participant assigned a risk factor for role play assignment and case study	Student will be able to identify assigned risk factor and describe the relationship to other risks. Student's case study will apply risk factor and solution to personal experiences	Verbal feedback provided by peers, written evaluation provided by instructor	01/18/2016
Learn the steps to implementing a successful data management system	Find academic articles outlining the process, research recent system implementations in my industry	Concept map illustrating the steps in order, followed by brief description of each step	Student will be able to successfully complete in class exam. Student will complete in class writing assignment, 250 word max, revising or implementing new system at work	Exam, written evaluation provided by instructor	01/25/2016
Provide research based suggestions to current employer regarding data management	Speak to manager to identify knowledge and skill gaps, company goals and viability of new system roll out	Research paper covering available options, pros and cons, common pitfalls and cost benefits. Must include citations, graphs based on data gathered	Student's paper will meet all points on rubric, information is clear, concise and visually interesting. Paper will relate to student's current job or industry of interest	In person meeting w/ instructor, receipt of completed rubric and student evaluation form	02/01/2016

Student Signature: _____ Date: _____

Instructor Signature: _____ Date: _____

source: **LEARN.GROW.EXPAND** <https://sam-barrow.com/2016/01/how-learning-contracts-facilitate-success/>

Strategies to plan learning

development plan

Name: _____
Student number: _____

Personal Development Plan

If you want to learn certain topics, or develop/improve certain skills but do not know where to start, the table below will guide you to make your plans.

Three most important things that you want to learn, develop or improve over the Freshmen Seminar subject or this semester

*Tips: set SMART goals
Specific, Measurable, Attainable, Relevant, Time-bound*

Actions that you will take to achieve it

Tips: start with the major ones first

Resources/Support

e.g. tools or service that you need to help you achieve it

Success criteria

i.e. How do you know you have achieved it successfully?

Target date for completion

i.e. By when will you achieve it?

Goal #1					
Goal #2					
Goal #3					

source: Learning to Learn Pilot Project

Strategies to monitor & reflect on learning

learning log

Learning Log

Directions: Fill out this learning log based on what you learned in class today.

What I did	How I worked and How I learned	What I learned

source: unknown

Strategies to monitor & reflect on learning

self-review on understanding

Learning Review Table

Today's topic:

In small group:

- In the table below, write in question form what you **understand**, **don't understand** and **want to know more** about today's topic.

Understand	Don't understand	Want to know more



Don't know how to phrase your question?

How is _____ related to _____ that we studied earlier?
 What is the main idea of _____?
 What are the strengths and weaknesses of _____?
 How does _____ affect _____?
 What causes _____?
 Why agree / disagree with the statement _____?

What are some possible solutions for the problem of _____?
 Which is the best _____ and why?
 How are _____ and _____ alike?
 What would happen if _____?
 In what way is _____ related to _____?
 Compare _____ and _____ with regard to _____.

source: Learning to Learn Project <https://www.polyu.edu.hk/learn-to-learn/es/materials/Learning%20Review%20Table.doc>

Strategies to monitor & reflect on learning

learning diary or journal

Name: [double click here to enter your name](#)

Programming Project Learning Diary

Date:

Chosen Task (please click on a box to mark it):

Task 1 <input type="checkbox"/> Noel's Music Quiz	Task 2 <input type="checkbox"/> Katarina's Dice Game	Task 3 <input type="checkbox"/> Louise's Card Game
--	---	---



Reasons for your choice

Briefly explain your reasons for choosing this particular task, including why you have not chosen the other tasks

Chosen Language (please click on a box to mark it):

<input type="checkbox"/> Python	<input type="checkbox"/> JavaScript	<input type="checkbox"/> Delphi
<input type="checkbox"/> C family of languages (for example C# C++ etc.)	<input type="checkbox"/> Visual Basic/.Net	<input type="checkbox"/> SQL
<input type="checkbox"/> Java	<input type="checkbox"/> PHP	<input type="checkbox"/> BASH



Reasons for your choice

Briefly explain your reasons for choosing this particular language, including why you have not chosen the other tasks



Summary of Learning from the lesson:

You may want to discuss key concepts you have learned and understood during today's lesson, define key terms, remind yourself how to avoid an error or discuss the work you completed during the lesson



Lightbulb Moment

Use this box to note down a problem or a challenge that you overcame during today's lesson, this could be solving a problem yourself or a point in the lesson where something finally "clicked"



Lessons Learned

Use this box to describe something that you have learned since the last lesson. Was there a question you were left with after the last lesson? Was there something you were still unsure of? What did you research or find out yourself? How did you close the gap in your knowledge/understanding?

Strategies to monitor & reflect on learning learning diary or journal



Strategies to plan, monitor, reflect on learning learning portfolio



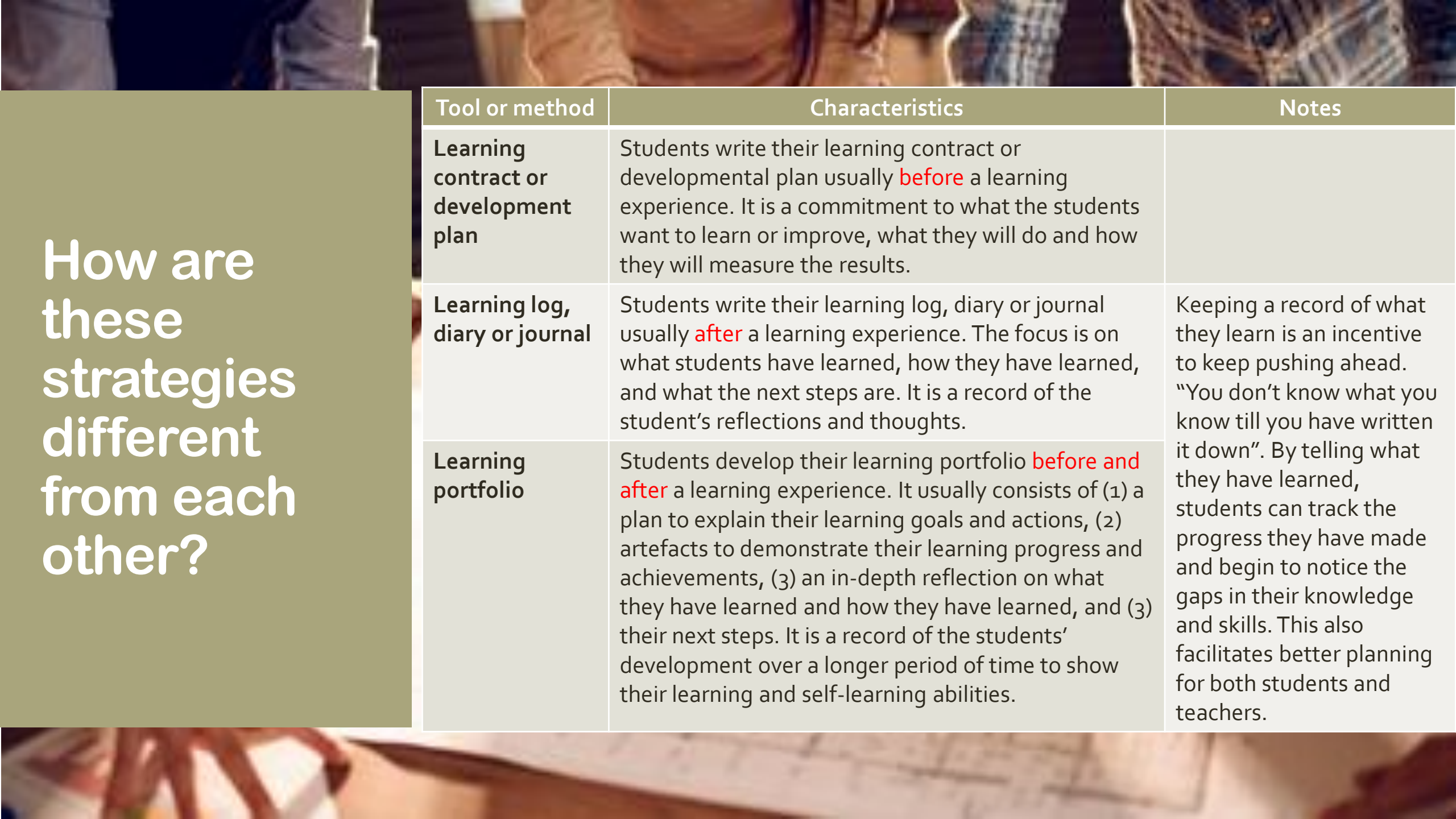
Strategies to

plan, monitor, reflect on learning

learning portfolio

The power of learning portfolio:

- Enables students to record their learning & document their growth over a period of time
- Serves as a venue for students to showcase their learning
- Used as a tool for self-assessment, self-reflection and personal development
- Helps students focus on the process of learning rather than the end product
- Promotes deeper learning as students actively engage in the learning process
- Develops students metacognitive skills and helps them take control of their learning
- Promotes mindfulness in learning
- Used as a method of self-discovery and confidence building
- Assists students in locating their strengths and weaknesses and plan for future improvement
- Helps students develop their presentation skills
- Presents a concrete evidence of students' work & achievements



How are these strategies different from each other?

Tool or method	Characteristics	Notes
Learning contract or development plan	Students write their learning contract or developmental plan usually before a learning experience. It is a commitment to what the students want to learn or improve, what they will do and how they will measure the results.	
Learning log, diary or journal	Students write their learning log, diary or journal usually after a learning experience. The focus is on what students have learned, how they have learned, and what the next steps are. It is a record of the student's reflections and thoughts.	Keeping a record of what they learn is an incentive to keep pushing ahead. "You don't know what you know till you have written it down". By telling what they have learned, students can track the progress they have made and begin to notice the gaps in their knowledge and skills. This also facilitates better planning for both students and teachers.
Learning portfolio	Students develop their learning portfolio before and after a learning experience. It usually consists of (1) a plan to explain their learning goals and actions, (2) artefacts to demonstrate their learning progress and achievements, (3) an in-depth reflection on what they have learned and how they have learned, and (3) their next steps. It is a record of the students' development over a longer period of time to show their learning and self-learning abilities.	

Activity



<https://padlet.com/cheungkasey/x9p1epak1muozznk>

Learning Review Table

Today's topic:

In small group:

- In the table below, write in question form what you **understand**, **don't understand** and **want to know more** about today's topic.

Understand	Don't understand	Want to know more

Improve one's own
learning through
guided self-reflection



Why self-reflection?

Pros

1. creating greater self-awareness, appreciating process as well as product, and deepening one's learning
2. by shifting their reflection from content to thought, students have the chance to put themselves back at the center of the learning process
3. important in building independence and self-directedness
4. students consistently reflect on the work they are submitting to their collections
5. teachers see the bigger picture and understand the overall goals and development of the students

Cons

1. it takes time and consistency
2. it is difficult to assess or measure



Self-Reflection on Practice **VS** Self-Reflection on Learning

Self-Reflection on Practice	Self-Reflection on Learning
Frequently used	Not so frequently used
The object to be reflected on is the practice or task	The object to be reflected on is the learning experience
Focus is put on understanding the actions and what can be done differently for improved outcomes	Focus is put on understanding what is underpinning their actions and what can be changed for more effective learning
Promotes performance-oriented	Promotes progress-oriented

Prompt Questions to Guide Self-Reflection

What was the thing I want to learn or develop?

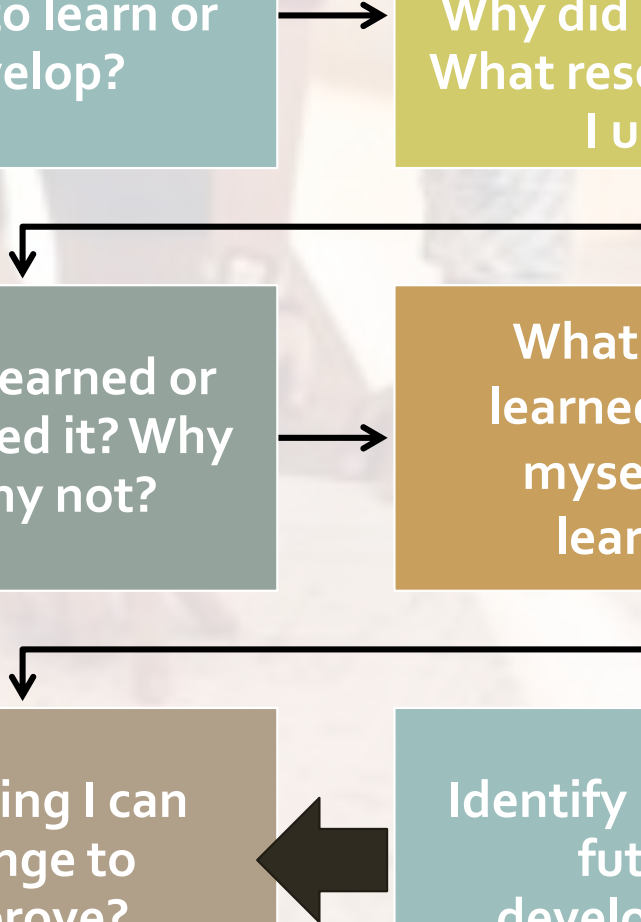
What did I do to learn or develop it?
Why did I do that?
What resources did I use?

Have I learned or developed it? Why or why not?

What have I learned about myself as a learner?

Anything I can change to improve?

Identify needs for future development





BLOOM'S TAXONOMY
PROMPTS TO HELP STUDENTS
REFLECT ON THEIR
LEARNING

teachthought
WE GROW TEACHERS

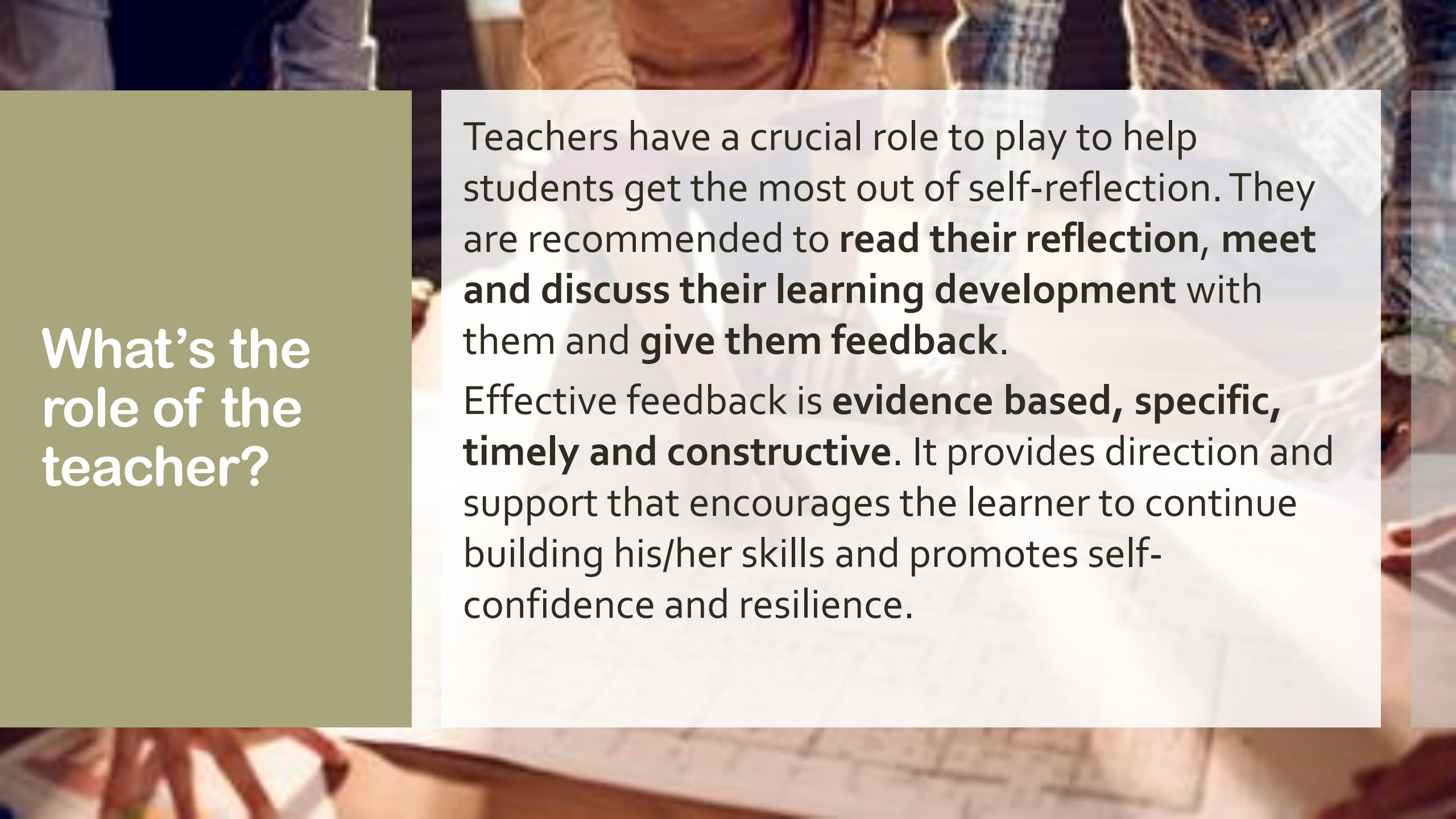
1. Do I see patterns in what I did?
2. Were the strategies and skills I used effective for this assignment/task?
3. How did my mindset affect how I approached my work?
4. Did I do an effective job of communicating my learning to others?
5. What have I learned about my strengths and my areas in need of improvement?
6. How am I progressing as a learner?
7. What can/should I do next?
8. How can I best use my strengths to learn?
9. What steps should I take or resources should I use to meet my challenges?
10. How can my learning environment be improved?

analyze

evaluate

create

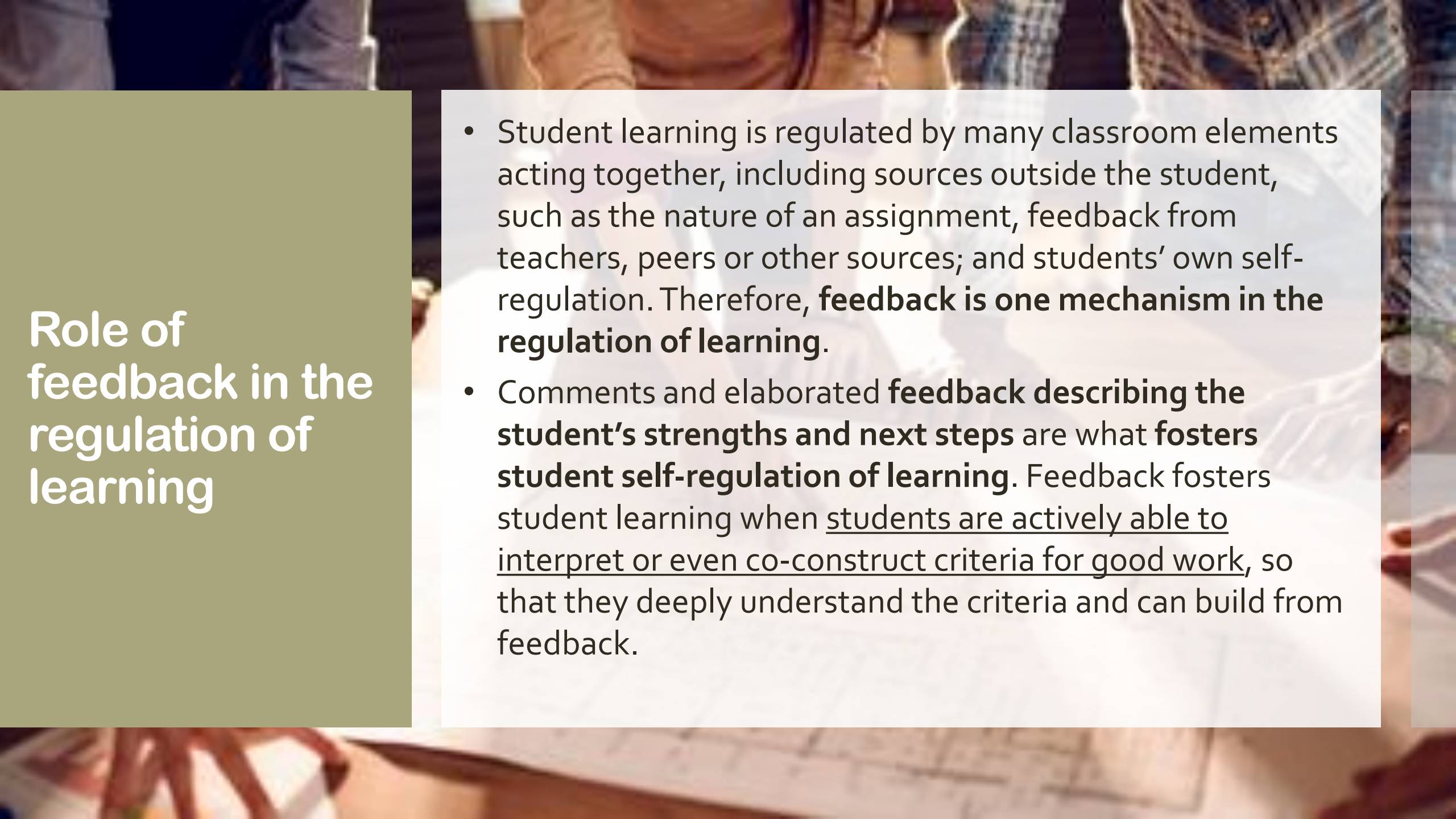
source: teachthought
<https://www.teachthought.com/learning/metacognitive-prompts/>

The background of the slide shows a group of students sitting at a table, looking at papers and working together. The image is slightly blurred and serves as a backdrop for the text.

What's the role of the teacher?


Teachers have a crucial role to play to help students get the most out of self-reflection. They are recommended to **read their reflection, meet and discuss their learning development** with them and **give them feedback**.

Effective feedback is **evidence based, specific, timely and constructive**. It provides direction and support that encourages the learner to continue building his/her skills and promotes self-confidence and resilience.

The background of the slide is a blurred photograph of a classroom. In the foreground, a student's hand is visible, holding a pencil and writing on a piece of paper. Other students are visible in the background, some looking at papers or devices. The overall scene is a typical classroom environment.

Role of feedback in the regulation of learning

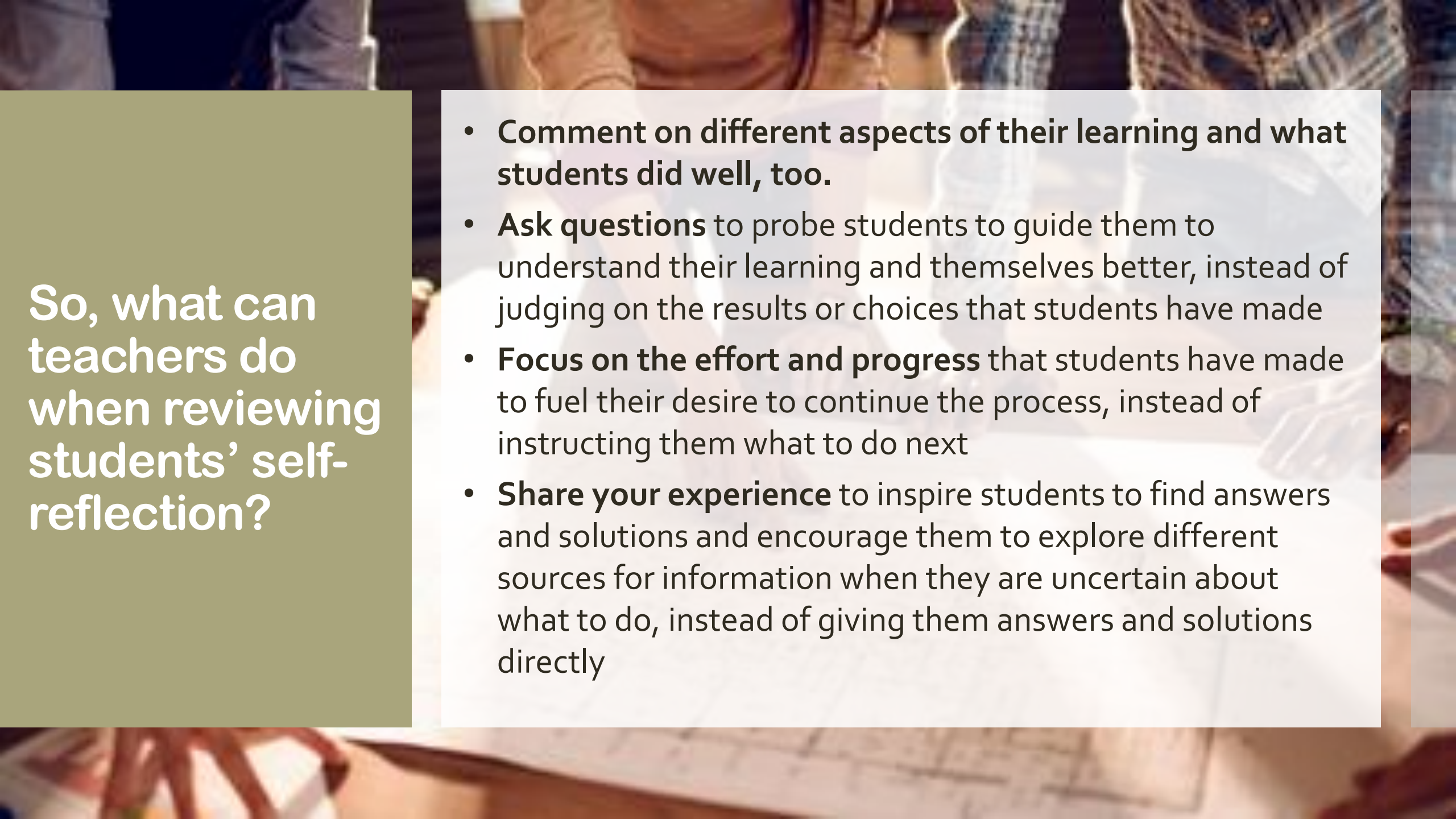
- Student learning is regulated by many classroom elements acting together, including sources outside the student, such as the nature of an assignment, feedback from teachers, peers or other sources; and students' own self-regulation. Therefore, **feedback is one mechanism in the regulation of learning.**
- Comments and elaborated **feedback describing the student's strengths and next steps** are what **fosters student self-regulation of learning**. Feedback fosters student learning when students are actively able to interpret or even co-construct criteria for good work, so that they deeply understand the criteria and can build from feedback.

The background of the slide shows a blurred image of students in a classroom. Some students are visible in the foreground, and others are in the background, creating a sense of a busy learning environment. The image is slightly out of focus, emphasizing the text overlay.

Characteristics of effective feedback

Effective feedback:

- Helps clarify what good performance is (criterion-referenced)
- Facilitates the development of self-assessment in learning
- Delivers high-quality information to students about their learning
- Encourages teacher and peer dialogue around learning
- Encourages positive motivational beliefs and self-esteem
- Provides opportunities to close the gap between current and desired performance
- Provides information to teachers that can be used to help shape the teaching

A background image showing a group of students sitting around a table, engaged in a collaborative activity. They are looking at papers and talking to each other. The image is slightly blurred, focusing attention on the text overlays.

So, what can teachers do when reviewing students' self-reflection?

- **Comment on different aspects of their learning and what students did well, too.**
- **Ask questions** to probe students to guide them to understand their learning and themselves better, instead of judging on the results or choices that students have made
- **Focus on the effort and progress** that students have made to fuel their desire to continue the process, instead of instructing them what to do next
- **Share your experience** to inspire students to find answers and solutions and encourage them to explore different sources for information when they are uncertain about what to do, instead of giving them answers and solutions directly