

# Use of Gamification to Improve Student Engagement

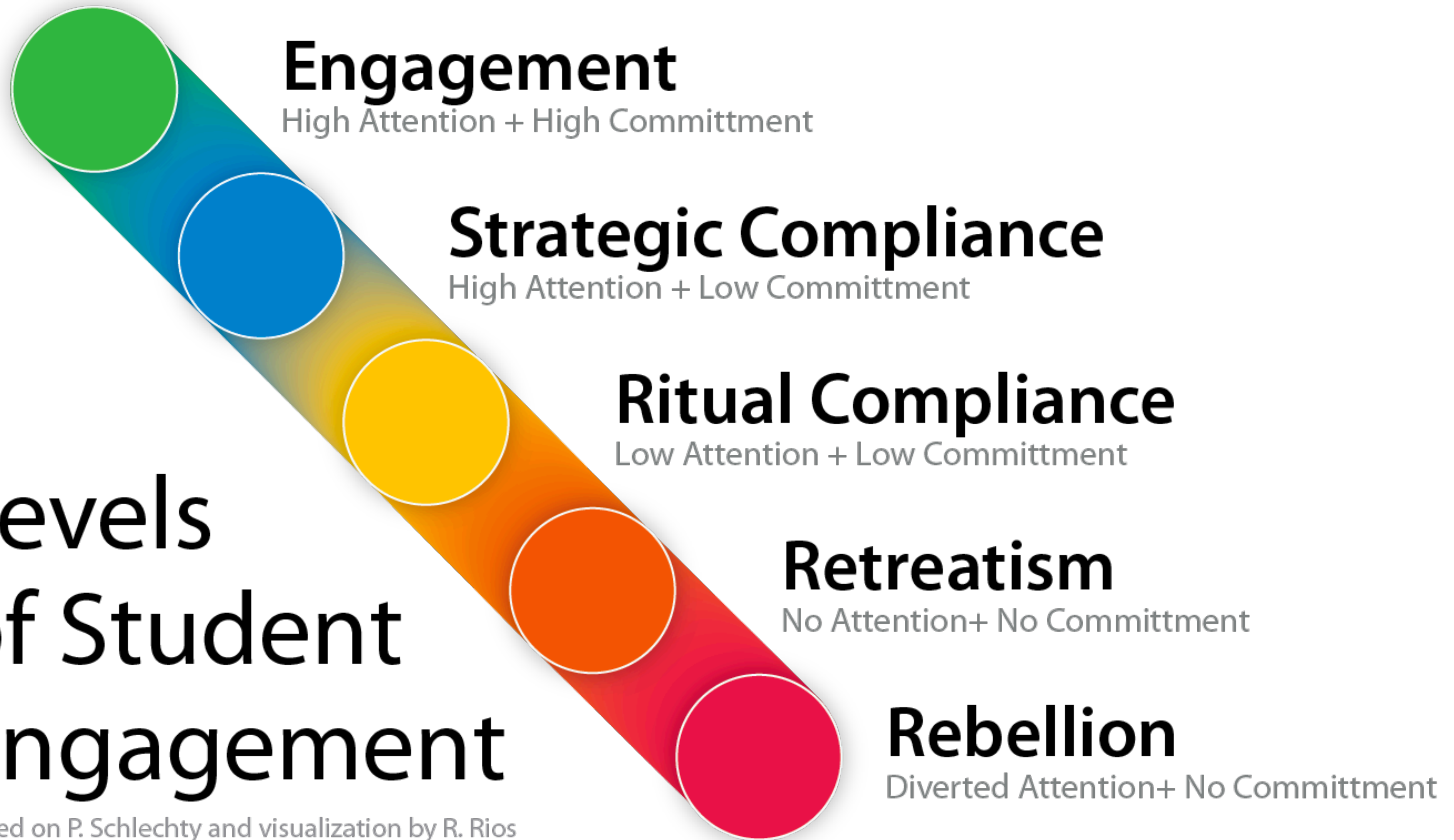
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# Levels of Student Engagement

based on P. Schlechty and visualization by R. Rios





# G A M I F I C A T I O N



**TRADITIONAL  
COURSE**

*All-or-nothing*

*Single Trial*

*Rewards*

*Penalty  
System*

*Unlimited  
Trials*

*Social  
Relatedness*

**GAMIFIED  
COURSE**



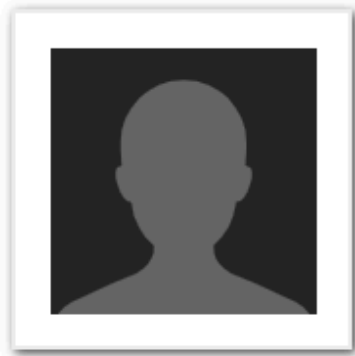
# BADGES





- **{RTBM}** – Review this syllabus in its entirety. [Self-submit. Deadline: 5/28]
- **{IITS}** – hashtag IITS when you direct somebody's question to the syllabus [Self-submit]
- **{Unit Master}** – complete (with a grade of Satisfactory or better) all of the assignments. *[Automatically tracked]*
- **{Off the Beaten Path}** – complete (with a grade of Satisfactory or better) at least one of the “Other Activities” not tied to a specified class in the syllabus. *[Automatically tracked]*
- **{Jack of All Trades}** – complete (with a grade of Satisfactory or better) ALL “Other Activities”. *[Automatically tracked]*
- **{NoteTaker}** – complete your design notebook *[Self-submit]*
- **{Humanitarian}** – complete (with a grade of Satisfactory or better) the Africa Takes on COVID-19 proposal under “Other Activities”. *[Automatically tracked]*
- **{Chatterbox #}** – Active on the discussion forum asking or answering questions. *[Automatically tracked. Levels for commenting on 1/5/10/20/50]*
- **{Debugger #}** – Identify and report any typos in the course materials. *[Self-submit. Levels for debugging on 1/5/10/20/50]*
- **{Bonus!}** – Earn the grade of Bonus! on an assignment. *[Self-submit]*
- **{Bonus!!!}** – Earn the grade of Bonus!!! on an assignment. *[Self-submit]*
- **{LOL}** – Make Prof. Hasenwinkel or Prof. Yung laugh out loud. *[Self-submit]*
- **{People's Choice}** – For the guild that receives the most “likes” in one of the design review activities in class. *[Self-submit, by guild]*
- **{Endgame}** – Complete your final project with a pitch submission. *[Self-submit, by guild]*

# My Achievements



Pun To Yung\_PreviewUser

+1 You have 1 new achievement(s)

All Achievements

Earned Achievements

Unearned Achievements

**Chatterbox 1**

Active on the discussion forum asking or answerin...

**Debugger 10**

Identify and report any typos in the course

**Debugger 5**

Identify and report any typos in the course

**RTBM**

Review the syllabus in its entirety. [Self-submit.

Chatterbox 10

Active on the discussion forum asking or answerin...

Chatterbox 20

Active on the discussion forum asking or answerin...

Chatterbox 5

Active on the discussion forum asking or answerin...

Chatterbox 50

Active on the discussion forum asking or answerin...

Debugger 1

Identify and report any typos in the course

Debugger 20

Identify and report any typos in the course

Debugger 50

Identify and report any typos in the course

IITS

hashtag IITS when you direct somebody's questio...



***You Don't Walk Alone***

**GUILD**







Assignment 1

+

Assignment 2

+

Guild Contract

**UNLOCK**

Assignment 3



Level	Grade	Points Required
10	A+	120,000
9	A	100,000
8	A-	90,000
7	B+	80,000
6	B	70,000
5	B-	60,000
4	C+	50,000
3	C	40,000
2	C-	30,000
1	D	20,000

Assignment	Points
Analysis on mobile health app	5,000
Needs finding activity	2,000
Guild contract	5,000
App assignment #1	2,500
Needs statement	2,500
App assignment #2	2,500
Needs screening	2,500
Preliminary design presentation	5,000
Debrief on Preliminary design presentation	5,000
App assignment #3	2,500
Alpha prototype presentation	10,000
Debrief on alpha prototype presentation	10,000
One-page project summary	5,000
Beta Prototype presentation	10,000
Debrief on beta prototype presentation	10,000
Group: 5-minute final presentation	20,000
Self-evaluation of your guild's project	10,000



# Gamification

## A COMBINATION OF GAMING WITH LEARNING



### Badges

In our research, we implemented the use of badges. We awarded students badges for when they showed above-average work and engagement in the classroom. We tried to have a badge for any student action that bettered their learning experience or the experience of their classmates.



### Leader Board

Weekly leader boards were released to students each Friday. With the leader board, students were able to see how well they were doing in the class. It also created a friendly competitive environment where students wanted to have the most points.



### Point System

In our classes we created a point system that assigned a value to student engagement within the course. The point system helped in creating an accurate leaderboard. Students got points for something as simple as participating in discussion to answering a classmate's question on the discussion board.



### Quests

Quest were put up within the classroom content as an extra assignment. The quests built up on class material and were worth a value of points. With doing the quests students had an opportunity to show mastery.



### Challenges

Gamification should be student-centered. When students were completing their project presentation, we added the extension of creating challenges that were specific to their design.

#### Reflection [2,500 points]

Submit a private reflection on a course assignment or structural elements to the instructors. Describe how it could be improved.

#### Improve the gamification of the course [5,000 points]

How effective are the gamified aspects of the course (the point system, the badges, etc.)? How could they be made better? What other aspects could they include? This should be a deeper analysis than the Game Master Trouble Ticket. *Prerequisite: Alpha prototype demonstration.*

#### Case study presentation [5,000 points]

Pick a mobile health-related cell phone application to do a 10-minute presentation to the class. It can be a case study not covered in the course, analysis of a technique or concept, or anything else. Submit your topic to the instructors along with 2 proposed dates, as these must be scheduled around other course activities.

#### Guild comparison [5,000 points]

For any of the group design activities we did in class, pick one guild's project that was better than yours, and one that you thought was worse. Explain why you picked them.

#### "Africa Takes on COVID-19" Proposal [10,000 points]

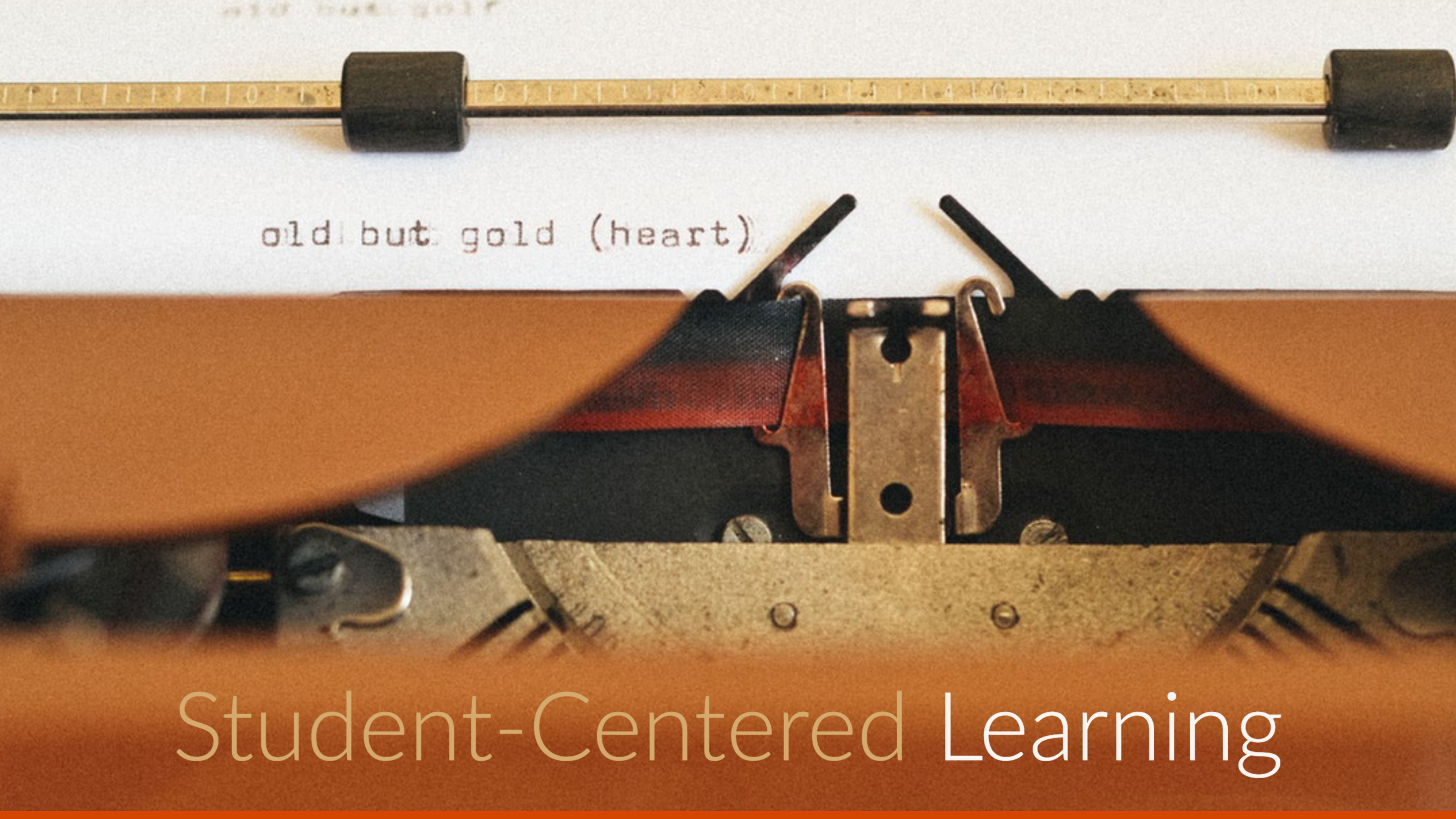
The world is rallying the innovation community to develop solutions towards the most pressing issues related to the COVID-19 crisis in Africa. Design and propose a mobile application to address this need. Your response should explain the technology platform, what it would look like, and how it would address the goal. *Prerequisite: Mobile health example classification.*

#### Choose your own adventure [points TBD]

Want to do an assignment that is not listed above? Make one up! You can propose your own graded activity, subject to review and approval by the instructors. Submit the following via Blackboard:

- Describe the requirements of the assignment
- Explain how it is a serious and valuable learning activity
- How is it different than the existing assignments?
- When is it due?
- How many points is it worth?

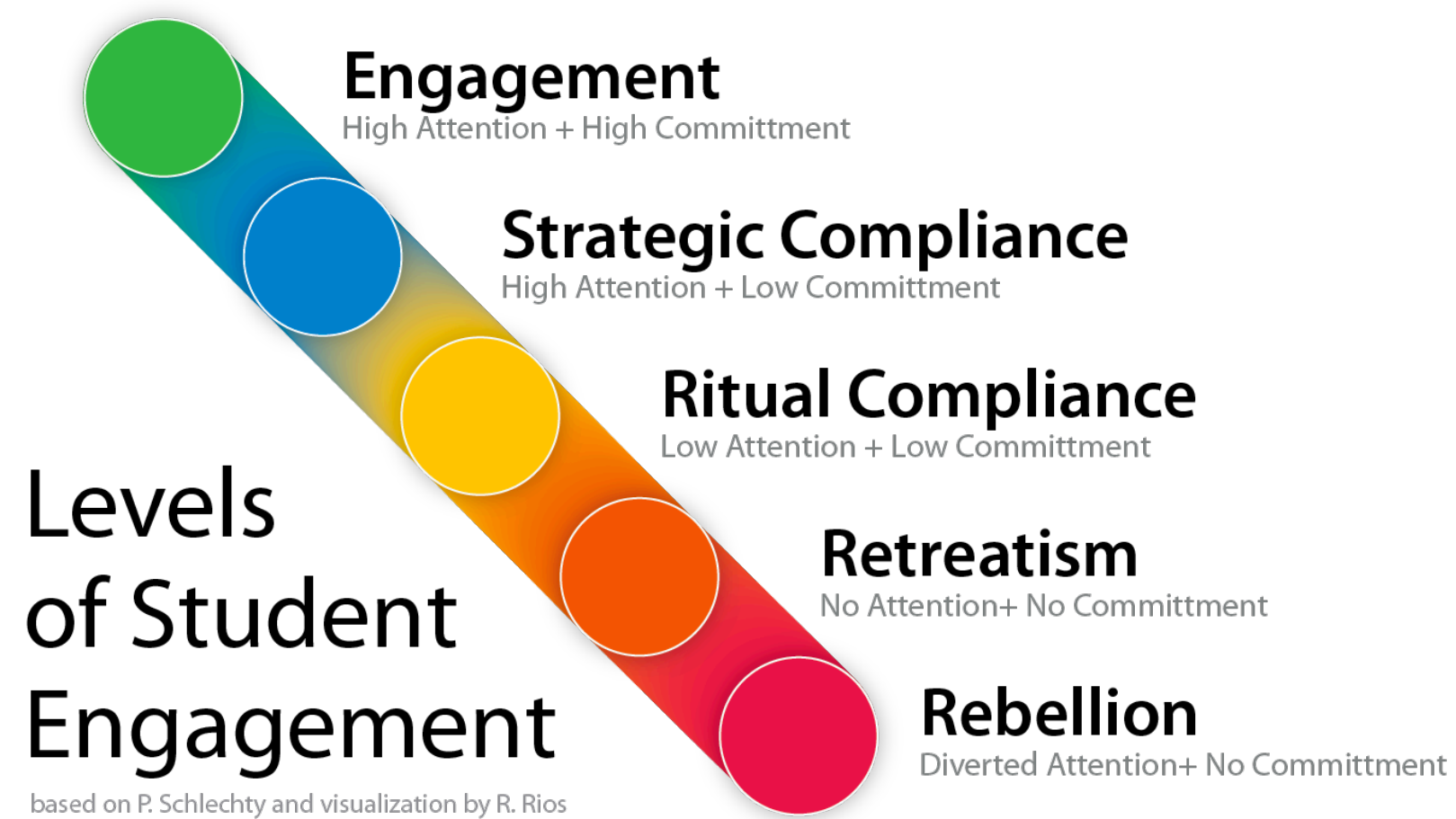
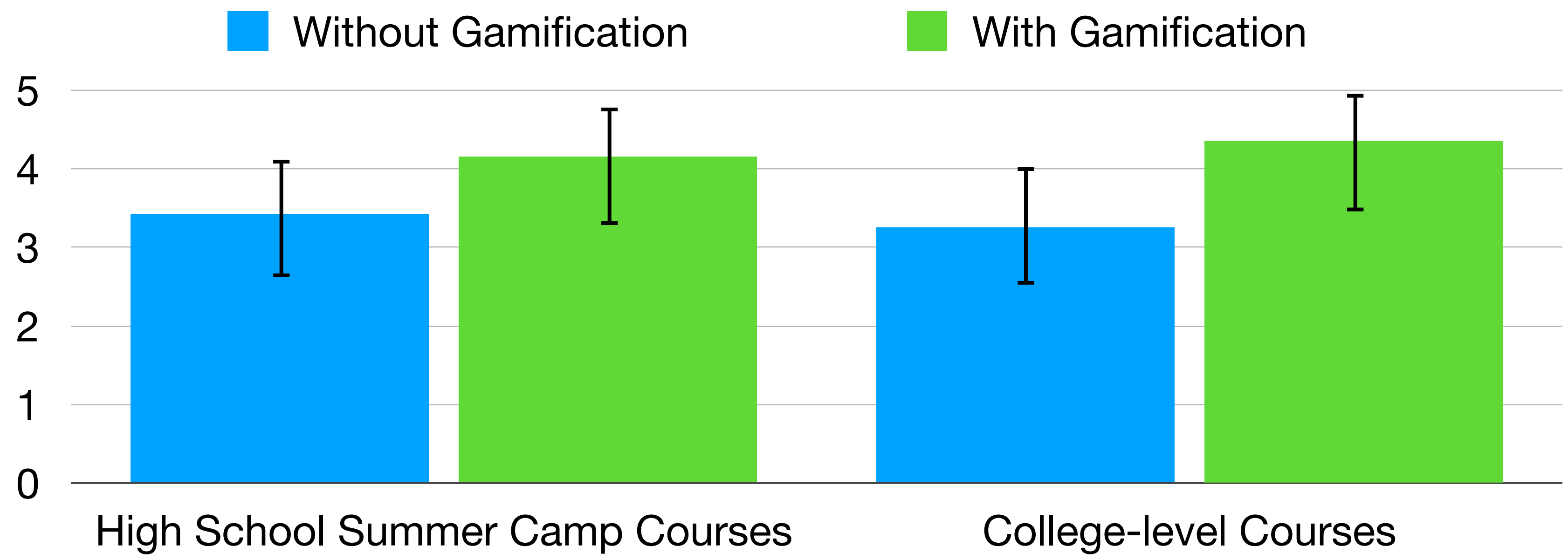




old but gold (heart)

Student-Centered Learning





5	Student was clearly prepared for class. Fully present in class and participating in dialogue with peers and the facilitator. Student also went the extra mile by doing non mandatory “assignments”.
4	A four is given for students who are well engaged but lacked in some areas and for that they didn't get a five. The student could have not provided helpful feedback for classmates or lack in presentation skills.
3	A score of three is for a student that was prepared, completing the necessary assignments to obtain a basic knowledge of the course. This includes having something to share during discussions. In general, they are present but not fully at
2	Student was present in class but not prepared. The student’s presence did not contribute to the class discussion. Student produced mediocre assignments.
1	Individual was absent frequently, rarely engaged in activities related to the class, or failed to complete the assignment requirements.