

**Sabreena Taylor**

*Teacher Training Australia, NSW*

## **Instructional Practices Inventories:**

*Quantifying and improving students' cognitive engagement – case studies from 3 Sydney high schools*

# Roles

- Education Consultant TTA 2008-2015
- School Planning and Performance Advisor 2013-2015 – High Performance Unit DEC
- Professional Learning and Leadership Coordinator 2011-2013 – NSR DEC
- Technology and Quality Teaching consultant 2009-2010 – NSR DEC
- Head Teacher/relieving DP 1996 - 2008
- Teacher 1982-1996

# Background

Research and underpinnings

# School evaluation

## **School data:**

- ❑ External academic
- ❑ Engagement
  - Retention
  - Attendance
  - Suspensions

## Some Processes and tools for providing feedback to staff:

- ❑ Walkthroughs: teacher focused
- ❑ Learning Walks (FLeWs): teacher focused
- ❑ Instructional Rounds: teacher/individual focused
- ❑ e5: teacher focused
- ❑ **IPI- student focused/collectively studied**

# The evidence

- ❑ Developed by Jerry Valentine, University of Missouri
- ❑ Research studies in development and evaluation of IPIs:
  - Painter, 1998
  - Quinn, 1999
  - Quinn, Gruenert & Valentine, 1999
  - National Association of Secondary School Principals, 2001, 2004, 2006
  - Peterson & Deal, 2002
  - Valentine, Clark, Hackmann, Petzko, 2004
  - 800 schools: IPIs and standardised tests
  - 100 schools: + IPIs, valued added, achievement

# The evidence

- Rick and Rebecca DuFour and their co-editor Robert Eaker (2005):
  - Students would be better served if educators embraced learning rather than teaching as the mission of their school
  - if they worked collaboratively to help all students learn
  - and if they used formative assessments and a focus on results to guide their practice and foster continuous improvement

# What is Instructional Practices Inventory?

Processes, protocols and engagement categories

## Instructional Practices Inventories

- ❑ The IPI process collects data about student engagement
- ❑ The focus is on student learning rather than teaching
- ❑ It provides authentic data to facilitate conversations on cognitive engagement and improving practice

# The IPI process

- ❑ Meetings – senior exec, executive, staff
- ❑ Training of data collection team: include trusted staff member and outside person
- ❑ Multiple data collections per year – usually 3
- ❑ Collaborative study of the data following each data collection – 15 Critical Questions for Faculty Consideration
- ❑ Collaborative study of the data is led by teachers
- ❑ Professional learning planned by teachers

# Data collection protocols

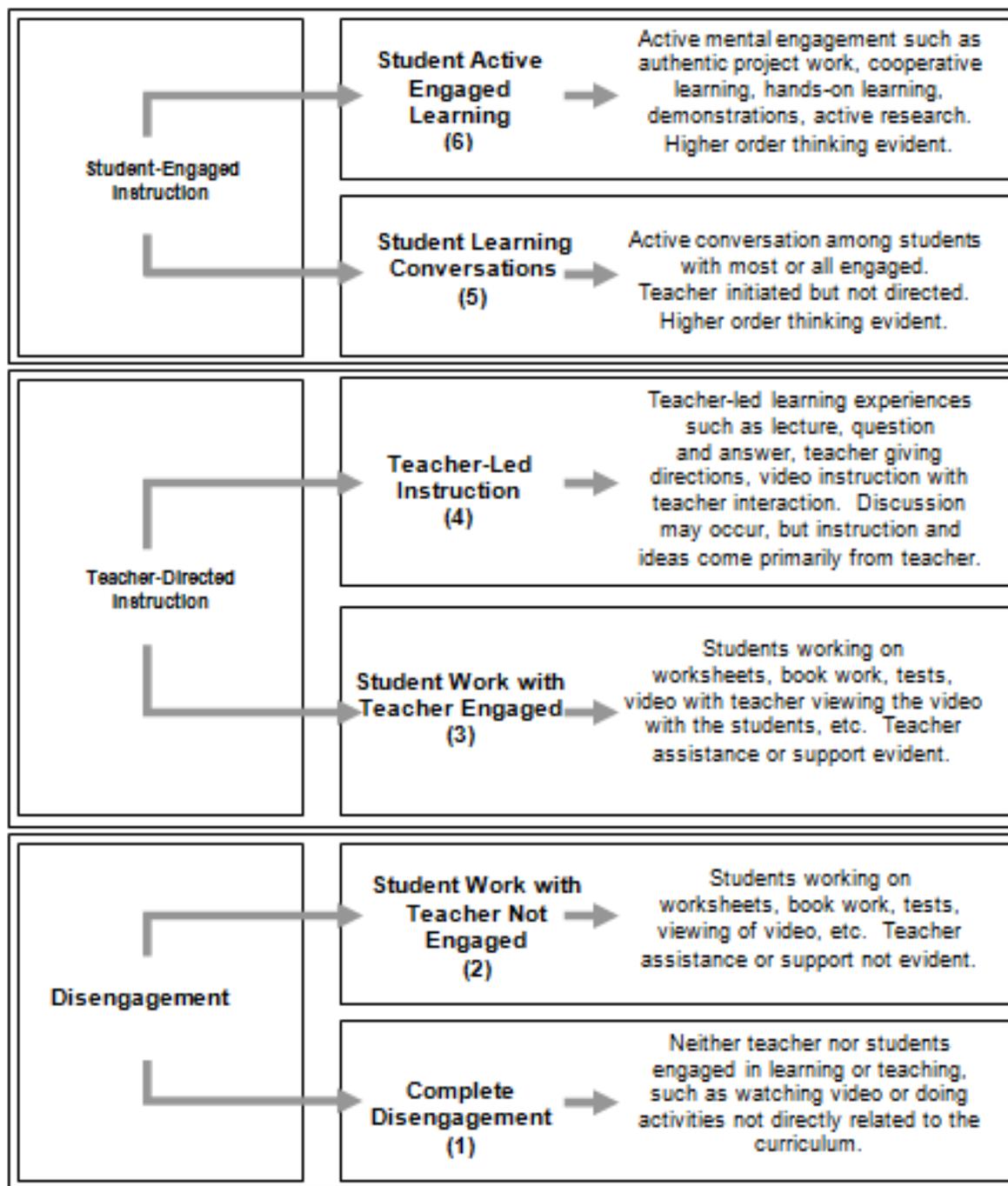
- ❑ Typical school day, not Fridays
- ❑ Completely anonymous – no teacher or subject
- ❑ Observations one to three minutes
- ❑ May distinguish between core and non-core
- ❑ No collection in first and last 5 minutes of lesson
- ❑ “Code up” if team disagrees
- ❑ Minimum of 100 collections (125-150 preferred)
- ❑ Observers use a map to systematically move throughout the school and observe every class
- ❑ Casual teachers NO; student teachers YES

## Instructional Practice Inventory Self-Assessment Record

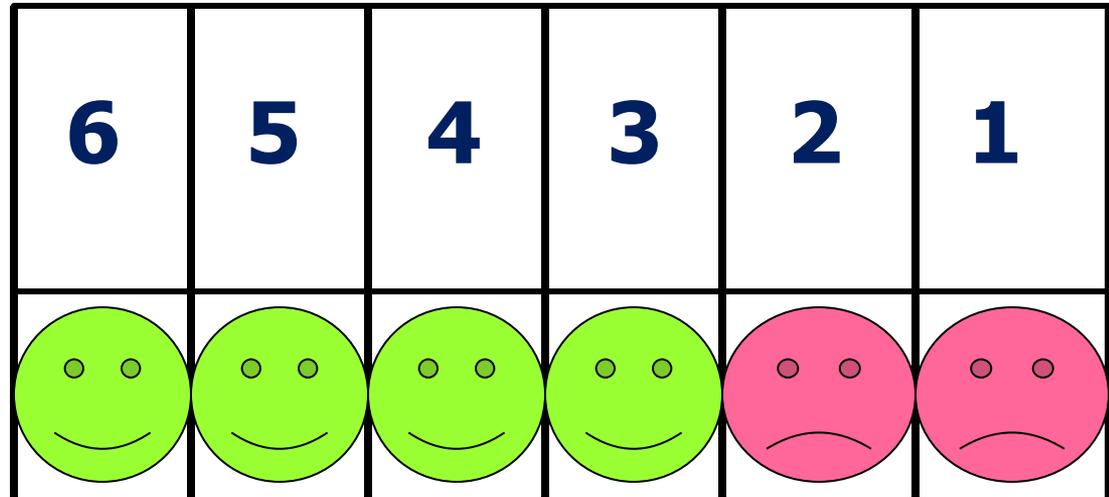
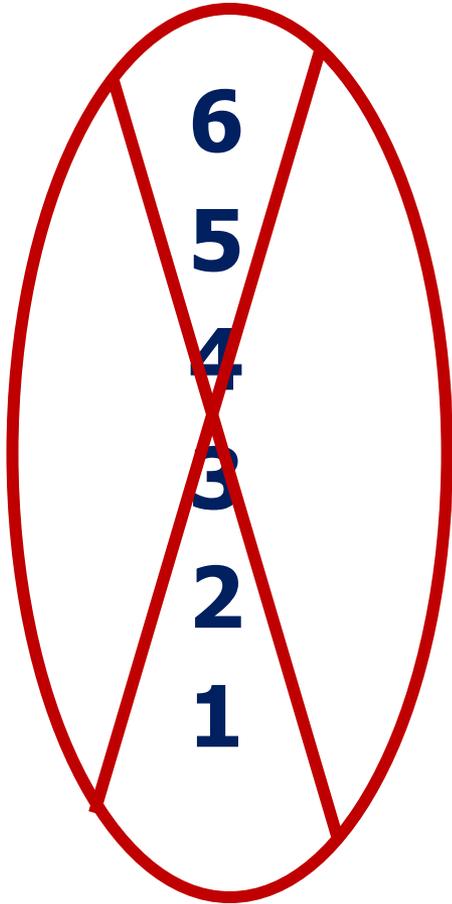
Date: \_\_\_\_\_

Record teaching practices every few minutes throughout the school day. Repeat process for multiple days and then compute your overall profile for those days.

	<b>Student Active Engaged Learning</b>	<b>Student Learning Conversations</b>	<b>Teacher-Led Instruction</b>	<b>Student Work with Teacher Engaged</b>	<b>Student Work with Teacher Not Engaged</b>	<b>Complete Disengagement</b>
	Students are engaged in higher-order learning. Common examples include authentic project work, cooperative learning, hands-on learning, problem-based learning, demonstrations, and research.	Students are engaged in active conversations that construct knowledge. Conversations may have been teacher stimulated but are not teacher dominated. Higher-order thinking is evident.	Students are attentive to teacher-led learning experiences such as lecture, question and answer, teacher giving directions, and video instruction with teacher interaction. Discussion may occur, but instruction and ideas come primarily from the teacher.	Students are doing seatwork, working on worksheets, book work, tests, video with teacher viewing the video with the students, etc. Teacher assistance or support is evident.	Students are doing seatwork, working on worksheets, book work, tests, video without teacher support, etc. Teacher assistance or support is not evident.	Students are not engaged in learning directly related to the curriculum.
7:30-7:45						
7:45-8:00						
8:00-8:15						
8:15-8:30						
8:30-8:45						
8:45-9:00						
9:00-9:15						



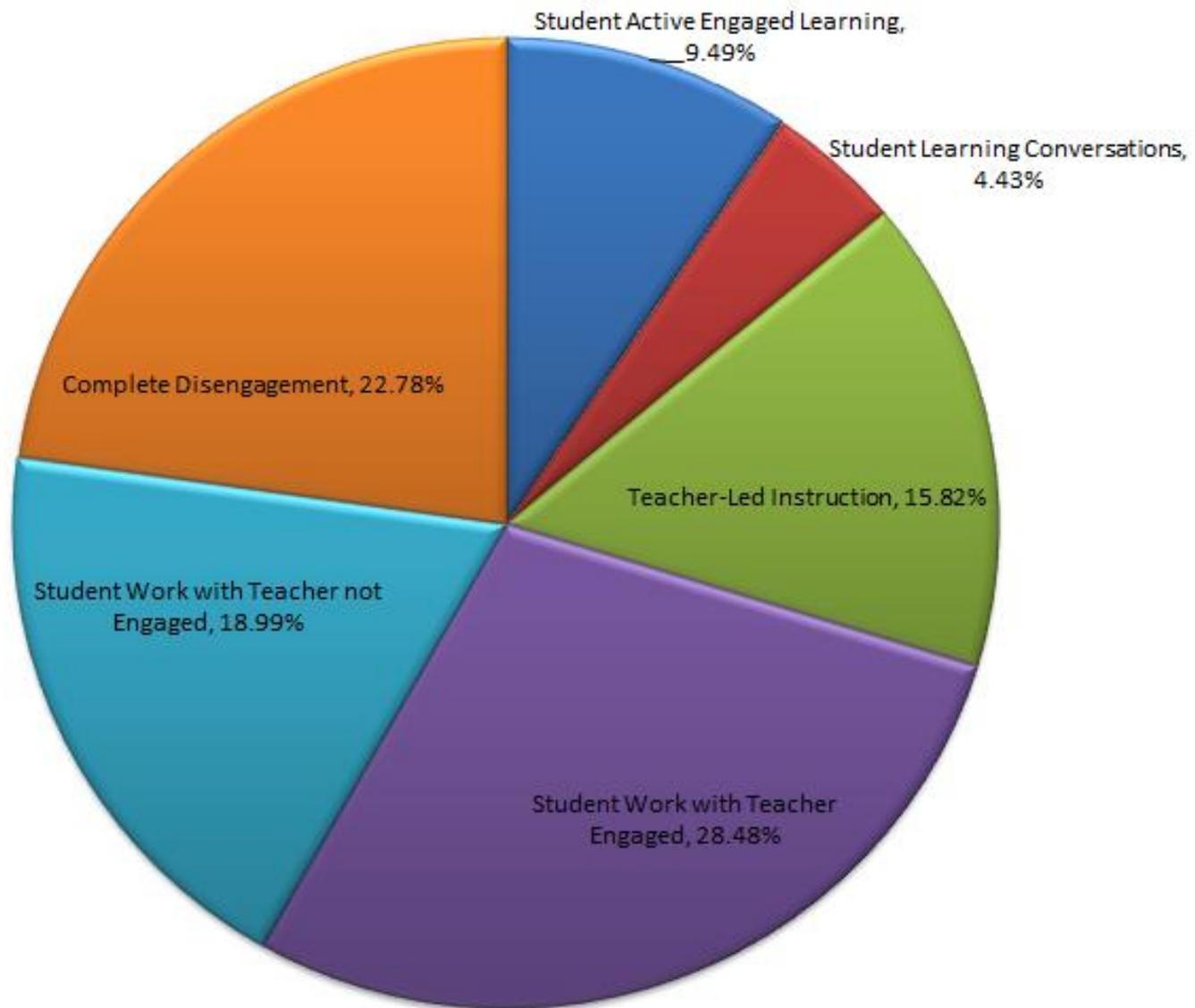
# NOT A HIERARCHY



**Six distinct categories...**  
ways of classifying how students are engaged.

# It's about the % of time

Category Description	"Typical"	Highly effective	Very unsuccessful
Student Active Engaged Learning	15-25	29.3	16
Student Learning Conversations	3-5	3.3	0.2
Teacher-Led Instruction	35-40	40.5	33.2
Student Work with Teacher Engaged	20-30	17.3	28.4
Student Work with Teacher Not Engaged	5-10	8.5	13.6
Complete Disengagement	3-8	1.0	8.4



## 6 Student active engaged learning

- ❑ Higher-order
- ❑ Deeper learning
- ❑ Typically:
  - authentic
  - hands-on
  - problem-based
  - research
  - analysis
  - creative

Higher-level engaged thought evident

## 5 Student learning conversations

- ❑ Higher-order
- ❑ Deeper student verbal learning
- ❑ Typically:
  - conversations among students who are constructing knowledge together
  - explanations
  - discussions
  - debates

Higher-Level Engaged Thought Evident

## 4 Teacher led instruction

- ❑ Students attentive
- ❑ Teacher leading the learning experience
- ❑ Typically:
  - explicit instruction by teacher
  - teacher explaining
  - teacher giving directions, instructions

Higher-level engaged thought not evident  
(passive)

### 3 Student work with teacher engaged

- ❑ Students working individually or in groups
- ❑ Teacher support evident
- ❑ Typically:
  - worksheets
  - answering questions from texts
  - doing tests
  - teacher moving among students

Higher-level engaged thought not evident  
(passive)

## 2 Student work with teacher not engaged

- ❑ Students working individually or in groups
- ❑ Independent work
- ❑ Teacher support not evident
- ❑ Typically:
  - worksheets
  - answering questions in books
  - doing tests
  - teacher doing other things

Higher-level engaged thought not evident  
(superficial and passive)

# 1 Students Not Engaged in Learning

- ❑ Students are not engaged with the curriculum
- ❑ Typically:
  - unfocused
  - Talking
  - inattentive

Higher-level engaged thought not evident

# Why the IPI Process?

- Provides **data on HOW students are engaged** with the curriculum and with their learning and **evidence** of improvement
- Provides opportunity for collaborative whole school **conversations about the data** and **empowers school** to make decisions about **how to use the data**
- Encourages purposeful, job embedded **professional learning** with feedback, short term wins and long term focus on a limited number of initiatives
- Leads to more **higher order, active and engaged** student learning and increased **student achievement**

# Case studies

3 Sydney high schools

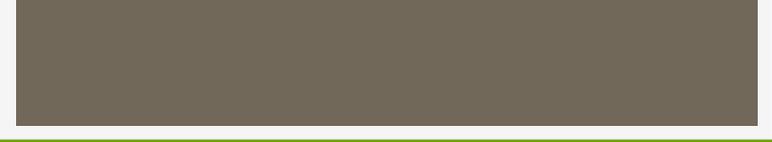
# Characteristics

- Comprehensive, co-ed, 7-12
- High socio-economic
- Competition from single sex, selective and private schools
- Mature, experienced staff
- Generally above state average achievement in external testing
- Underachieving in top bands

# High school 1

Category Description	"Typical"	Highly effective	Data 1	Data 2
Student active engaged learning	15-25	29.3	8.33	8.72
Student learning conversations	3-5	3.3	3.47	3.76
Teacher-led instruction	35-40	40.5	15.28	34.89
Student work: teacher engaged	20-30	17.3	30.56	33.83
Student work: teacher not engaged	5-10	8.5	16.67	11.28
Complete disengagement	3-8	1.0	22.22	7.52

# High school 2

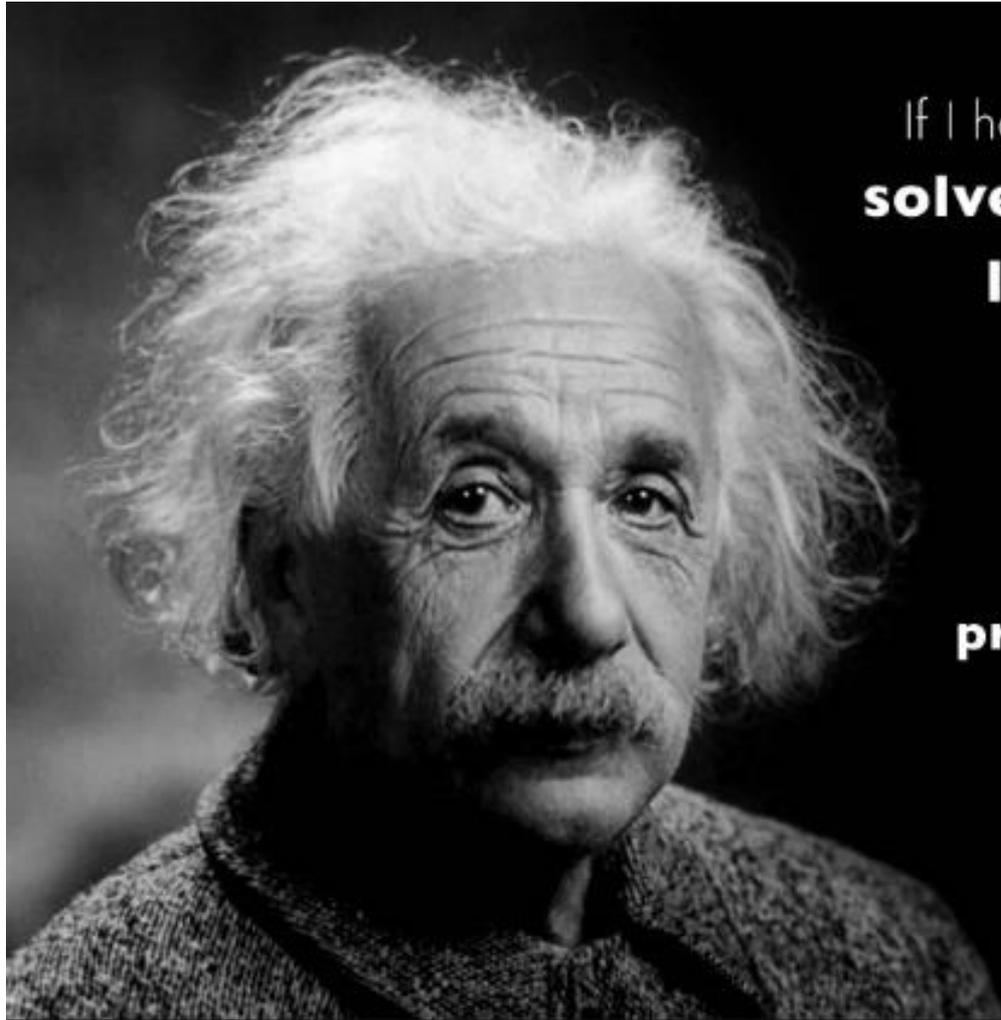


Category Description	"Typical"	Highly effective	Data 1	Data 2	Data 3
Student active engaged learning	15-25	29.3	14.77	12.35	12.42
Student learning conversations	3-5	3.3	3.98	3.70	3.73
Teacher-led instruction	35-40	40.5	25.57	29.63	40.37
Student work: teacher engaged	20-30	17.3	34.09	36.42	34.78
Student work: teacher not engaged	5-10	8.5	5.68	5.56	4.97
Complete disengagement	3-8	1.0	15.91	12.35	3.73

# High school 3

Category Description	"Typical"	Highly effective	Data 1	Data 2	Data 3
Student active engaged learning	15-25	29.3	5.64	17.29	18.92
Student learning conversations	3-5	3.3	0.51	7.52	9.91
Teacher-led instruction	35-40	40.5	21.03	18.05	23.42
Student work: teacher engaged	20-30	17.3	38.97	43.61	30.63
Student work: teacher not engaged	5-10	8.5	15.38	5.26	10.81
Complete disengagement	3-8	1.0	11.28	8.27	3.6

# Questions?



If I had an hour to  
**solve a problem** and my  
**life depended** on it,  
I would use the  
first 55 minutes  
determining the  
**proper questions to ask.**

*Albert Einstein*

# Contact

Information on IPIs:

❑ [sabreena.taylor@tta.edu.au](mailto:sabreena.taylor@tta.edu.au)

IPI in your school:

❑ [onsite@tta.edu.au](mailto:onsite@tta.edu.au)

Professional learning enquiries:

❑ Phone: 1300 789 961

❑ Email: [admin@tta.edu.au](mailto:admin@tta.edu.au)