Improving Student Learning 
One Teacher at a Time: 

*Updating a Lesson Plan*

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Update Lesson Planning using GANAG

GANAG – an acronym for a lesson planning schema where students learn to apply the (9) high-yield learning strategies
### Positive Deviance:

1. Science
2. Invisible *in plain sight*
3. The “flip”
4. The simple solution

### Category of Strategies

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Category of Strategies</th>
<th>Effect Size</th>
<th>Percentile Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Identifying similarities and differences</td>
<td>1.61</td>
<td>+45%</td>
</tr>
<tr>
<td>3</td>
<td>Summarizing and note taking</td>
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<td>+34%</td>
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<tr>
<td>4</td>
<td>Reinforcing effort and providing recognition</td>
<td>0.80</td>
<td>+29%</td>
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<tr>
<td>5</td>
<td>Homework and practice</td>
<td>0.77</td>
<td>+28%</td>
</tr>
<tr>
<td>6</td>
<td>Nonlinguistic representations</td>
<td>0.75</td>
<td>+27%</td>
</tr>
<tr>
<td>7</td>
<td>Cooperative learning</td>
<td>0.73</td>
<td>+27%</td>
</tr>
<tr>
<td>8</td>
<td>Setting objectives and providing feedback</td>
<td>0.61</td>
<td>+23%</td>
</tr>
<tr>
<td>9</td>
<td>Generating and testing hypotheses</td>
<td>0.61</td>
<td>+23%</td>
</tr>
<tr>
<td>10</td>
<td>Questions, cues, and advanced organizers</td>
<td>0.59</td>
<td>+22%</td>
</tr>
</tbody>
</table>
2. Invisible in plain sight

3. The flip: Feedback

Feedback reduces the gap between what is known and what is aimed to be known.

J. Hattie and H. Timperley 2008

Feedback is the hinge that swings the information about goals and progress between teacher and student.

J. E. Pollock 2012

Feedback reduces the gap between what is known and what is aimed to be known.

J. Hattie and H. Timperley 2008
The 9 high-yield strategies increase feedback

GANAG is a lesson plan created to increase student use of 9 strategies

Update your schema

Mastery TEACHING '70s

Master LEARNERS 21st C

G – set a goal
A – access prior knowledge
N – new information (d or p)
A – apply thinking/practice
G – goal review, grade

Feedback at each step
Homework/Assessment - timely

Lesson Planning

G - set a goal chapters 8/4 (CITW)
A – access prior knowledge chapters 6/7/10
N – new information (d or p) chapters 3/5 and 11
A – apply thinking/practice chapters 2/9/10 and 5
G – goal review, grade chapters 8/4

Homework/Assessment
Gs of GANAG

Goal: Set a learning goal based on the standards.

Access Student Prior Knowledge

New information (declarative/procedural)

Application

Goal: Revisit the goal. Score to the standards.

Gs = Opportunities for 2 Strategies

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Category</th>
<th>Average Effect Size</th>
<th>Personnel/Class</th>
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<tbody>
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<td>Identifying similarities and differences</td>
<td>1.61</td>
<td>+65%</td>
</tr>
<tr>
<td>3</td>
<td>Summarizing and note taking</td>
<td>1.00</td>
<td>+34%</td>
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<tr>
<td>4</td>
<td>Repeated emphatic positive providing</td>
<td>.20</td>
<td>+29%</td>
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<tr>
<td>5</td>
<td>Manipulation of perspective</td>
<td>.77</td>
<td>+28%</td>
</tr>
<tr>
<td>6</td>
<td>Questioning and answering</td>
<td>.75</td>
<td>+27%</td>
</tr>
<tr>
<td>7</td>
<td>Cooperative learning</td>
<td>.73</td>
<td>+27%</td>
</tr>
<tr>
<td>8</td>
<td>Evaluating outcomes and providing feedback</td>
<td>.66</td>
<td>+26%</td>
</tr>
<tr>
<td>9</td>
<td>Generating and validating</td>
<td>.66</td>
<td>+26%</td>
</tr>
<tr>
<td>10</td>
<td>Sharing ideas, and asking questions</td>
<td>.39</td>
<td>+23%</td>
</tr>
</tbody>
</table>

Teacher started with the standard she wanted the students to perform.

RI.K.1 With prompting and support, ask and answer questions about key details in text.
### Secondary English Language Arts

**Reading**

**Standard 1:** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

LA 8.1.1 Actively read texts to draw conclusions and make inferences based on information from texts. 
explicit (literal) v. implicit 
cite specific textual evidence

LA 8.1.2 Actively read texts to draw conclusions and make inferences based on information from texts. 
explicit (literal) v. implicit

### Student Self-Scoring

Sample Teacher Scoring Guide

<table>
<thead>
<tr>
<th>Report Card Identifier</th>
<th>Teacher Name</th>
<th>Teacher Notes</th>
<th>Student Name</th>
<th>Student Notes</th>
<th>Score</th>
<th>Score Notes</th>
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<tbody>
<tr>
<td>Standard 1</td>
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<td>LA 8.1.1</td>
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<tr>
<td>LA 8.1.2</td>
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6
The first A of GANAG

G - Set a learning goal based on the standards

Access Student Prior Knowledge

New information (declarative/procedural)

Application

G - Revisit the goal. Score to the standards.

APK= Opportunities for 3 Strategies

<table>
<thead>
<tr>
<th>Chapter</th>
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<th>Personal/For Class</th>
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<td>Identifying similarities and differences</td>
<td>1.61</td>
<td>+65%</td>
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<tr>
<td>3</td>
<td>Summarizing and note-taking</td>
<td>1.00</td>
<td>+36%</td>
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<tr>
<td>4</td>
<td>Rehearsing important points and providing meaning</td>
<td>.20</td>
<td>+29%</td>
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<tr>
<td>5</td>
<td>Review and practice</td>
<td>.77</td>
<td>+28%</td>
</tr>
<tr>
<td>6</td>
<td>Non-linear connectivity</td>
<td>.75</td>
<td>+27%</td>
</tr>
<tr>
<td>7</td>
<td>Cooperative learning</td>
<td>.73</td>
<td>+27%</td>
</tr>
<tr>
<td>8</td>
<td>Reflecting practice and providing feedback</td>
<td>.61</td>
<td>+26%</td>
</tr>
<tr>
<td>9</td>
<td>Generating and noting</td>
<td>.61</td>
<td>+26%</td>
</tr>
<tr>
<td>10</td>
<td>Observing cues, and understanding</td>
<td>.59</td>
<td>+25%</td>
</tr>
</tbody>
</table>

3 simple steps

1. Use an image, story, object or even notes from the day before.

2. Ask students to respond to a cue or question. If possible, have students write down their response (a word, phrase, numbered list, sketch or pictograph).

3. Pair share to help students fire each other’s neurons—allowing for every student to participate.
The NI of GANAG

G - Set a learning goal based on the standards

Access Student Prior Knowledge

New Information (declarative/procedural)

Application

G - Revisit the goal. Score to the standards.

NI = Opportunities for 4 Strategies

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Category</th>
<th>Average Effect Size</th>
<th>Percentage</th>
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<td>3</td>
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<tr>
<td>4</td>
<td>Activating prior and providing new</td>
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<td>29%</td>
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<tr>
<td>5</td>
<td>Reinforcement and practice</td>
<td>.79</td>
<td>29%</td>
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<tr>
<td>6</td>
<td>Nonlinguistic representation</td>
<td>.75</td>
<td>29%</td>
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<tr>
<td>7</td>
<td>Cooperative learning</td>
<td>.75</td>
<td>29%</td>
</tr>
<tr>
<td>8</td>
<td>Setting standards and providing feedback</td>
<td>.64</td>
<td>29%</td>
</tr>
<tr>
<td>9</td>
<td>Generating and organizing</td>
<td>.61</td>
<td>29%</td>
</tr>
<tr>
<td>10</td>
<td>Generalizing, comparing, and applying generalizations</td>
<td>.39</td>
<td>29%</td>
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</table>

Left Side

STUDENT

Goal/objectives:
Setting Goal/Feedback (8)努力 (4)

Access Prior Knowledge:
Nonlinguistic (6)
Coop Learning (7)
Questions/Cues (10)

STOP to Interact
Coop Learning (7)
Questions/Vac (10)
Summarize (3)

APPLY thinking skills or procedures (2, 9, 10)

Goal/objective Review
Setting Goal/Feedback (8)努力 (4)

Right Side

TEACHER

New Information
Includes:
Notes – Organizers (3)
Content – Procedures (5)
Teach Thinking Skills: (2, 9, 10)
Compare
Classify
Create an Argument
Analyze (system, perspective)
Solve problems/Decide
The 2nd A of GANAG

G - Set a learning goal based on the standards

Access Student Prior Knowledge

New Information (declarative/procedural)

Application

G - Revisit the goal. Score to the standards.

APPLY = Opportunity for 4 Strategies

<table>
<thead>
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<th>Chapter</th>
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<th>Average Effect Size</th>
<th>Personalization</th>
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<td>4</td>
<td>Selecting important and providing meaningful follow up</td>
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<tr>
<td>5</td>
<td>Homework and practice</td>
<td>.77</td>
<td>+35%</td>
</tr>
<tr>
<td>6</td>
<td>Non-linear confrontation</td>
<td>.75</td>
<td>+37%</td>
</tr>
<tr>
<td>7</td>
<td>Cooperative learning</td>
<td>.75</td>
<td>+37%</td>
</tr>
<tr>
<td>8</td>
<td>Starting projects and providing feedback</td>
<td>.46</td>
<td>+30%</td>
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<tr>
<td>9</td>
<td>Generating and reframing</td>
<td>.46</td>
<td>+30%</td>
</tr>
<tr>
<td>10</td>
<td>Sharing ideas and elaborating information</td>
<td>.30</td>
<td>+23%</td>
</tr>
</tbody>
</table>

GANAG Plus

G - set a goal

Select method such as: Parallel Teaching

A – access prior knowledge

Select method such as: Team Teach
One Teach, One Assist

N – new information (d or p)

Select method such as:
One Teach, One Observe

A – apply thinking/practice

Select method such as:
Stations Teach, Small Group/Large Group

G – generalize, goal review, grade

Select method such as:
One Teach, One Score
Publications – Pollock J.E.


Jane, former ESL and classroom teacher, has worked as a district administrator and at McRel Laboratory. She believes that teachers need ongoing professional development and coaching to improve teaching and supervision in order to improve student learning.


From Caracas, Venezuela, Jane earned degrees at the University of Colorado and Duke University.
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