



**Modelling and explanations**

***Intensive Training and Practice Booklet***

This booklet is designed as a companion for consolidating knowledge and skills relating to effective modelling and explanations in phase 3 of your training.

*“Most human behaviour is learnt observationally through modelling (Albert Bandura)*

**PG Secondary: Intensive Training and Practice (ITaP2)**

# Aims and intentions of ITaP (Modelling and explanations)

## What is the pivotal/foundational focus?

The focus of this ITaP is modelling and explanations.

## What is the overarching aim of this ITaP?

The role of this ITaP is to strengthen the link between evidence and classroom practice, specifically in relation to modelling and explanations.

## What are the intended learning outcomes of this ITaP?

* To develop student teachers’ knowledge and understanding of pertinent research and best practice in relation to modelling and explanations.
* To support student teachers to identify and understand effective delivery in relation to modelling and explanations, generally, and within the context of their own subject.
* Support student teachers to plan and apply what has been learnt, in relation to modelling and explanations, in a range of contexts, e.g., via approximations of practice and in a full class setting.

## How will the intended learning outcomes be assessed?

* Student teachers can articulate the impact of the ITaP on their practice e.g., through activities that support them to document their reflections and weekly mentor meetings. (Resource 1, 2 and 3 in appendix)
* Mentors can evidence student teachers’ knowledge in practice e.g., through the lesson evaluation proforma for ITaP 2 (Resource 4)
* Mentors can evidence student teachers’ knowledge in practice by commenting about ITAP progress on the phase review form.

**Introduction**

1. **What is an Intensive Training and Practice element (ITaP)?**

ITaP is designed to give student teachers feedback on foundational aspects of the curriculum, where close attention and control of content, critical analysis, application and feedback are required. It provides an opportunity to intensify the focus on specific, pivotal areas. Intensive training and practice should also build a powerful link between evidence-based theory and practice. This means that an ITaP will need to be led and supported by an appropriate range of experts. Because the main aim is to strengthen the link between evidence and classroom practice, some elements of ITaPs **must** take place in a school environment.

## Why is Intensive Training and Practice part of the programme?

There is a growing collection of evidence to support the value of practice-based teacher training; an approach to teacher training that emphasises the importance of neither knowledge nor practice alone, but the use of knowledge in practice. This underpins the ITaP model. Although there *are* opportunities to link theory and practice together during general teaching placements, the specific focus of an ITaP makes this link more obvious and gives greater opportunities for practice. The intention is to consolidate student teachers’ understanding of how the evidence base should shape their teaching practice, which is a concept that could be applied to any subject, phase or age range. Use of this model should also increase coherence between the theory that is taught and its practice in schools.

For further information please read: [Government Response to the ITT Market Review](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1059746/FOR_PUBLICATION_Government_response_to_the_initial_teacher_training__ITT__market_review_report.pdf)

## Why is modelling and explanation an ITaP focus?

## Modelling and explanations are a pivotal component of effective practice and an integral aspect of the teacher training curriculum. Effective modelling and explanations enable teachers to support pupils to develop their knowledge and understanding of concepts and processes and their ability to apply their learning in a range of contexts.

## What constitutes ‘best practice’ in modelling and explanations?

* **Schema building through effective modelling and explanations.** Pupils piece together ideas, information, experiences, and concepts to form a coherent web that constitutes their knowledge and understanding of any given topic (Sherrington, 2022). The teacher should therefore have a strong understanding of what pupils already know. They can then effectively use modelling and explanations to build on this prior knowledge, so the new information is made sense of and assimilated into the overall schema.
* **Presenting new material in small steps and chunking**. Our working memory is the place where we process information. However, we can only handle a few small amounts of information at any one time. Therefore, teachers should not present too much new material at once as this increases the chance of overwhelming working memory. This relates closely to **cognitive load theory** which deals with the way the human brain processes and stores information. Instead, teachers should provide small amounts of new material at a time, and then assist the students as they practice this content in a variety of contexts (Rosenshine, 2012).
* **Using worked examples.** Teachers should use scaffolding to support pupils to work independently. Giving worked examplesprovidesstudents with a logical step-by-step demonstration of a task that makes clear the process and the required end product (Sherrington, 2020). Approaches will often ‘fade’ information (such as the ‘I do, we do, you do’ model) which gradually reduces the level of explanation provided to the pupils. In some circumstances, pupils are given incorrect worked examples and asked to identify errors in the process (EEF, 2021).
* **Thinking aloud and metacognition.** Teachers should verbalise their thinking (known as metacognition) as they approach and work through a task. Sharing the thought processes of an expert learner helps to develop pupils’ knowledge and skills (EEF, 2021).
* **Checking for understanding.** Teachers should check pupils’ understanding regularly during modelling and explanation to see if all the students are learning the new material, or if misconceptions are developing, and reteach content where necessary (Rosenshine, 2012)

**Further reading**

Perry, T., Lea, R., Jørgensen, C.R., Cordingley, P., Shapiro, K. and Youdell, D., (2021). Cognitive science in the classroom. London: Education Endowment Foundation (EEF).

Feely, M., & Karlin, B. (2022). The Teaching and Learning Playbook: Examples of Excellence in Teaching. Taylor & Francis.

Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American educator*, *36*(1), 12.

Sherrington, T. (2020). Rosenshine's principles in action. John Catt Educational.

Sherrington, T., (2022). Teaching Walk Thrus 3: Five-step guides to instructional coaching.

Van Gog, T., & Rummel, N. (2010). Example-based learning: Integrating cognitive and social-cognitive research perspectives. *Educational psychology review*, *22*, 155-174.

**The LJMU ITaP (2) Model of Delivery (fig 1)**

The research that underpins the principle of an ITaP is defined as an exploration of “identifiable components (fundamental to teaching and grounded in disciplinary goals) that teachers enact to support learning. Core practices consist of strategies, routines and moves that can be unpacked and learned by teachers” ([Grossman et al., 2018](https://journals.sagepub.com/doi/10.1177/0022487119880162?icid=int.sj-abstract.similar-articles.2#bibr29-0022487119880162) p. 4). Therefore, the ITaP will use the below model to structure activities through the 5-day period.

**Introduce:** support student teachers’ learning about relevant research and theory.

**Analyse:** support student teachers to analyse expert teaching.

**Prepare:** provide opportunities for student teachers to use approximations to practice and get feedback.

**Enact**: support student teachers to apply their learning in the classroom.

**Assess:** monitor student teachers’ knowledge and skills.

*NB while dates have been identified, the time allocated may be divided over a number of days to better fit with school timetables.*

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| **Thursday 18th April**  **Centre Based Training** | **Introduce**  Through a series of lectures and workshops, critically explore the relevant research and theory associated with modelling and explanations. |
| **Friday 19th April**  **Centre Based Training (subject specific)** | **Introduce**  Through a series of workshops and seminars, critically explore the relevant research and theory associated with modelling and explanations within the context of the subject. |
| **Monday 22nd April**  **School Based Training**  **Tuesday 23rd April**  **School Based Training** | **Analyse**  Deconstruct effective examples of modelling and explanations and analyse them, supported by expert practitioners.  **Prepare**  Student teachers will work with their peers to rehearse planning and teaching via approximations of practice. They will receive feedback that will enable them to develop their knowledge and their classroom practice. |
| **Wednesday 24th April**  **School Based Training** | **Enact and Assess**  Student teachers will have multiple opportunities to apply their learning to the classroom. Mentors will support students’ planning and teaching and their assessments will support students’ developing knowledge. Students will apply this feedback to their next classroom enactment. |

**Day 1 – UNIVERSITY CENTRE BASED LEARNING: Thursday 18th April**

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| **Introduce**  Through a series of lectures and workshops, critically explore the relevant research and theory associated with modelling and explanations. | |
| **Summary of content** | **Follow up activities** *e.g., for students who were unable to attend or to consolidate learning.* |
| **Students will:**  **Morning session**  **Lead Lecture – Exploring the research underpinning effective and impactful modelling.**  **Workshop - Embedding modelling in practice**   * Develop knowledge of modelling and what it is, by critically exploring relevant research and theory. * Develop knowledge of modelling and key elements to consider when working in the secondary environment.   (\*For school direct partners - for the specific research and theory pertaining to modelling and explanations see ‘What constitutes ‘best practice’ in modelling and explanations?’ section above.)  **Afternoon session**:  **Lead Lecture –** **Exploring the research underpinning effective and impactful explanations.**  **Workshop – Embedding explanations in practice.**   * Develop knowledge of explanations by critically exploring relevant research and theory. * Develop knowledge of explanations and key elements to consider when working in the secondary environment.   ***\*A gap-task will be set that all students should complete***  **Learning outcomes – students will be able to:**   * Develop a critical understanding of research pertaining to modelling and explanations. * Summarise the importance of modelling and explanations as a reflective practitioner. * Identify and reflect on the nature of effective modelling and explanations to inform planning for effective learning. | 1. Familiarise yourself with the teaching materials available on Canvas, modelling and explanations hub page for ITaP 2. 2. Read the following:  |  | | --- | |  | | Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American educator*, *36*(1), 12. | |  |  |  1. Complete the gap tasks below.   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **Gap Task**  **In readiness for the next university-based session, please read the section titled *‘B4. Managing cognitive load’* in the *‘Cognitive science in the classroom: evidence and practice review’***   1. https://educationendowmentfoundation.org.uk/education-evidence/evidence-reviews/cognitive-science-approaches-in-the-classroom |

**Day 2 – UNIVERSITY CENTRE BASED LEARNING (subject specific): Friday 19th April**

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| **Introduce**  Through a series of workshops and seminars, critically explore the relevant research and theory associated with modelling and explanations within the context of the subject. | |
| **Summary of content** | **Follow up activities** *e.g., for students who were unable to attend or to consolidate learning.* |
| **Morning and afternoon session**: **Explanations and modelling in the subject**   * Workshops will be conducted by the Subject Lead. * All subjects will approach modelling and explanations in a unique and specialised manner and therefore the nature and content of each seminar cannot be detailed here. However, students will engage in a variety of the following learning activities: * An exploration of subject specific research pertaining to modelling and explanations. * Discuss and reflect upon their own experiences in relation to the explanation and modelling whilst on placement in partner schools. * Deconstruction of videos of expert teachers/example lessons will be employed to analyse teachers’ approaches to explanations and modelling. * Respond to scenario-based learning. * Provide the opportunity for students to create approximations of practice to a group of peers and a tutor who will act in role. * Provide the opportunity for students to reflect on their own approaches and what they observed from peers, to draw together policy and practice. * Facilitate feedback and discussion in small groups. * Allow independent reflection and study time in preparation for school activities.   **Students will be able to:**   * Demonstrate knowledge of subject specific research in relation to modelling and explanations. * Develop knowledge of subject specific key pedagogical approaches related to modelling and explanations. * Demonstrate knowledge of how to effectively plan and utilise modelling and explanations into a lesson for their specialist subject. * Recap, consolidate and apply previously learned content. | 1. Familiarise yourself with the subject specific teaching materials available on Canvas. 2. Read the following:  |  | | --- | |  | | Chapter 3 – modelling, explaining and feeding back.  Feely, M., & Karlin, B. (2022). The Teaching and Learning Playbook: Examples of Excellence in Teaching. Taylor & Francis. | |  |  |  1. Complete the gap tasks below.   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **Gap Task**  Select a lesson plan for a lesson you have taught in phase 2. Reflect on how you used modelling and explanations in the lesson. Annotate the lesson plan by writing down areas of strength which you believed positively impacted pupil learning and explore why. Given what you now know, also annotate the lesson plan by writing down any improvements or changes you would make to your use of modelling and explanations in the lesson if you were to teach it again. |

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| **Analyse**  Deconstruct effective examples of modelling and explanations and analyse them, supported by expert practitioners.  **Prepare**  Student teachers will work with their peers to rehearse planning and teaching via approximations of practice. They will receive feedback that will enable them to develop their knowledge and their classroom practice. | |
| **Summary of content (**guided by a school expert) | **Follow up activities** *e.g., for students who were not able to attend or to consolidate learning.* |
| **This school based intense experience will require partnership ITT mentors to facilitate:**   * Introduce students to the organisation of the school-based learning days. * Facilitate student teacher observations with a focus on modelling and explanations, and expert input from leaders on teaching and learning. * Students have worksheets to complete while conducting observations **(Resource 1 and 2 - see appendix)** * Allow student teachers some independent planning time when, in pairs, students will plan and rehearse a short teaching episode focusing on modelling and explanation approaches. * Provide the opportunity for students to reflect on their own teaching and what they observed from others teaching and reflection with peers **(Resource 3 - see appendix)** * Facilitate feedback and discussion in small groups.   **Learning outcomes – students will be able to:**   * Observe lessons and identify effective practice in relation to modelling and explanations. * Understand how modelling and explanation can be used effectively in different parts of the lesson. * Plan a subject lesson to demonstrate effective modelling and explanations. * Apply knowledge relating to effective modelling and explanations. * Effectively deconstruct their own lessons. Recognising areas of strength and areas for improvement. | 1. Familiarise yourself with appropriate teaching materials available on Canvas and in your subject area for specificity. 2. Read the following:   Van Gog, T., & Rummel, N. (2010). Example-based learning: Integrating cognitive and social-cognitive research perspectives. *Educational psychology review*, *22*, 155-174.  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **Gap Task**  In readiness for the next stage of the ITaP where you will be applying what you have learnt to teach a lesson.   * Use the feedback you received today and your own reflections to help you to continue to plan to teach a lesson. * Housekeeping: Update your ITaP Folder on the one drive with development work. This must include the planning and your reflections and the feedback you were given. **(Resource 4, see appendix)** |

**Day 3 and 4 SCHOOL BASED LEARNING: Monday 22nd April and Tuesday 23rd April**

**Day 5 SCHOOL BASED LEARNING: Wednesday 24th April**

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| **Enact and Assess**  Student teachers will have multiple opportunities to apply their learning to the classroom. Mentors will support students’ planning and teaching and their assessments will support students’ developing knowledge. Students will apply this feedback to their next classroom enactment.  *\*NB while dates have been identified on the POP for this stage, the time allocated may be divided over a number of days to better fit with school timetables, necessary and more convenient.* | |
| **Summary of content** | **Follow up activities** *e.g., for students who were unable to attend or to consolidate learning.* |

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| **Student teacher taught lesson – school ITT mentors to facilitate.**   * Subject lesson observation by ITT mentor. Students enact learning – by teaching e.g., an episode, subject lesson, partial lesson or the start of a lesson. * Discuss the feedback (formal feedback) with the teacher and the modelling and explanation approaches used. **(Resource 4 - see appendix)** * Student teacher. Write a reflection on the lesson and conclude implications for practice using **(Resource 3 - see appendix).**  Also, document in Weekly Meeting Record (WMR). * Target setting/ implications for practice and assessment to conclude ITaP 2 * Review and conclusion of the ITaP next steps and feedback   **Learning outcomes – students will be able to:**   * Understand how modelling and explanation can be used effectively in different parts of the lesson. * Plan a subject lesson to demonstrate effective modelling and explanations. * Apply knowledge relating to effective modelling and explanations. * Effectively deconstruct their own lessons. Recognising areas of strength and areas for improvement. | Analyse and assess progress and development for impact on practice.  Student teacher to provide evidence in weekly meeting conversation, commented on Phase Review form and complete table **(Resource 5 - see appendix)**  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **Weekly meeting during the ITaP**  As part of the time allocated for the assessment of student’s learning, 20 minutes should be allocated in weekly meetings that coincide with the ITaP. This time should be dedicated to discussing progress and specific targets.  The intended outcomes for the ITaP should be used to frame the discussion and to set precise targets, moving forward. |

# Observation and Planning Resources

In order to reduce workload and to make clear links between LJMU’s curriculum and school-based practice, several resources are provided. Student teachers are asked to use them to plan and observe and school partners are asked to use them to ensure consistency.

**Resource 1 and 2 - Observation prompts for students to use when observing experienced teachers.**

* As we want you to focus your observations specifically on modelling and explanations, please use the prompts provided.

**Resource 3 – Reflections prompts for students to use after teaching.**

* As we want students to focus their personal reflections specifically on modelling and explanations, please use the prompts provided.

**Resource 4 - Observation prompts for mentors observing student teachers.**

* As the ITaP has very specific aims, we ask that the usual LJMU observation pro-forma is not used when observing lessons taught as part of the ITaP. Instead, please use the pro-forma provided.

**Resource 5 - Checklist**

* This document provides a clear checklist which clearly states what students need to store in their one drive to evidence their full engagement in the ITaP.

**Resource 1 - Observing effective practice**

In the table below identify the times when modelling or explanation was used in the observed lesson. Note the strategies the teacher used, how often they used them and to what effect.

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| --- | --- | --- | --- |
| **Date** | **Teacher**  **initials** | **Practical Strategies** – practical strategies identified in observation, for example delivering new information in small steps. | **Effect** – the impact on learning that you observed. |
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**Resource 2 - Observing Effective Practice**

In the next table note how modelling and explanations are used at different times in the lesson.

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| --- | --- | --- | --- | --- | --- | --- |
| **Year:** | |  | **Date:** |  | **Classroom:** |  |
| **Focus of Observation:** Modelling and explanations | | | | | | |
| **Time** | **Activity** | | | | | |
| ***Starter******activities*** *– what practical strategies can you observe during the start of the lesson?*   * *Is the ‘why’ of the lesson explained?* * *Is an explanation used to ‘hook’ pupils in and capture their interest?* * *Is the information explained in context of what has already been learnt?* * *How are the starter activities modelled and explained?* | | | | | | |
|  |  | | | | | |
| ***Main******activities*** *- what practical strategies can you observe during the main activities?*   * *How do explanations build on the starter activities?* * *How does the teacher ensure the pupils do not become overwhelmed with new information?* * *Does the teacher verbalise their thinking when modelling?* * *How does the teacher check pupil understanding when modelling and explaining?* * *Is the ‘I do, we do, you do’ model used? If so, how?* * *Does the teacher model other pupil’s work?* | | | | | | |
|  |  | | | | | |
| ***Plenary*** *- what practical strategies can you observe during the end of the lesson?*   * *Does the teacher provide explanations that consolidate the learning in the lesson?* * *Does the teacher provide and explanation of how this lesson will link to the next lesson?* | | | | | | |
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**Resource 3 – Reflecting on my own practice**

Use the table below to deconstruct and analyse your own use of modelling and explanations.

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| --- | --- | --- | --- | --- | --- |
| **Year:** |  | **Date:** |  | **Classroom:** |  |
| **Focus of lesson:** | | | | | |
| **Pre-lesson discussion with mentor/peers** | | | | | |
| **Post lesson reflection and discussion with mentor/peers** | | | | | |
| **Modelling**  Did you clearly communicate when modelling?  Did you effectively use worked examples to provide a logical step-by-step demonstration?  Did you gradually reduce the level of support when modelling, encouraging pupils to work towards independence?  Did you check for understanding?  Did you identify and correct misconceptions during modelling?  Did you verbalise and narrate your thinking when modelling?  If you used peer modelling, was it impactful? | | | | | |
|  | | | | | |
| **Explanations**  Did you explain the ‘why’ of the lesson/activity?  Did you explain how the lesson links to what has already been learnt?  Did you introduce new material in small steps.  Did you check for understanding?  Did you identify and correct misconceptions during explanations? | | | | | |
|  | | | | | |
| **Action points** – what have you learnt for future practice? | | | | | |
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**Resource 4 – Lesson evaluation proforma for ITaP 2**

This is to be used to provide specific, meaningful, and detailed feedback. It is not designed to be used by mentors or student teachers as a checklist.

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| --- | --- | --- | --- | --- | --- |
| **Student teacher:** | **Date** | **School:** | | **Year group** | **ITT Mentor/Liaison Tutor:** |
| **If you like to make notes while you are observing, you may do so here.** | | | | | |
| **When teaching, does the student** | | | **Example or comment** | | |
| Clearly communicate when modelling and explaining? | | |  | | |
| Manage behaviour effectively to ensure the modelling and explanations are impactful? | | |  | | |
| Explain the ‘why’ of the lesson? | | |  | | |
| Explain how the lesson links to what has already been learnt? | | |  | | |
| Introduce new material in small steps? | | |  | | |
| Effectively use worked examples to provide a logical step-by-step demonstration? | | |  | | |
| Check for understanding during modelling and explanations? | | |  | | |
| Identify and correct misconceptions during modelling and explanations? | | |  | | |
| Gradually reduce the level of support when modelling, encouraging pupils to work towards independence? | | |  | | |
| Ensure peer modelling is effective and impactful, if used? | | |  | | |
| Verbalise and narrate their thinking when modelling? | | |  | | |

**Resource 5**

**Assessment of ITaP 2 (modelling and explanations)**

To complete the phase review for ITaP 2, please ensure all documents can be reviewed through the one drive.

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| **Date** | **Completed Activity** | **Completed** and saved in sub folder 4 of the one drive (check each box) |
|  | * Lesson observation notes |  |
|  | * Self-reflection notes – Capturing the new learning in relation to modelling and explanations. |  |
|  | * Weekly meeting record for the ITaP week captures discussion and progress in relation to the modelling and explanations ITaP. |  |
|  | * Saved this booklet on your one drive in subfolder 4. <https://itt-placement.com/pgce-secondary/placement-experience-file.php> |  |
|  | * Phase review form demonstrates engagement with the completion and progress of the ITaP. (Uploaded to Abyasa and one drive) to include targets for practice |  |

**References**

Feely, M., & Karlin, B. (2022). The Teaching and Learning Playbook: Examples of Excellence in Teaching. Taylor & Francis.

Perry, T., Lea, R., Jørgensen, C.R., Cordingley, P., Shapiro, K. and Youdell, D., (2021). Cognitive science in the classroom. London: Education Endowment Foundation (EEF).

Sherrington, T. (2020). Rosenshine's principles in action. John Catt Educational.

Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American educator*, *36*(1), 12.