

# **Video Self-Modeling Interventions: Practical Implications of Age, Maintenance, and Intervention Type**

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# Video Self-Modeling (VSM)

- Importance and Overview of VSM
- Theoretical Basis for VSM
- Review of Literature in the field
- Utility of VSM, Types of VSM
  - Social autopsy/peer modeling
- Examples of Videos
  - Preschool/music therapy
  - Feedback from Parents, Teachers, and Students
- Application – How to make a VSM movie
  - Handout
- Filming and Editing Videos
- Pros and Cons of VSM Intervention Movies
- Maintenance of Skills and Dealing with possible resistance
- Diverse Applications of VSM
- Questions



# Importance of Intervention

- The need for evidence-based intervention strategies in the schools is enormous.
- Federal educational regulations, such as the Individual with Disabilities Education Improvement Act (2004) and No Child Left Behind (2002), require the use of evidence-based interventions to increase positive student outcomes in the schools (Collier, Fallon, Johnson, Sanetti, & DelCampo, 2012).
- Unfortunately, all too often intervention strategies are utilized that are lacking a strong research foundation, or confirmation that the strategy works with a specific population.

# What is Video Self Modeling?

- Definition of Video Self Modeling (VSM)
  - “A specific application of video modeling that allows the individual to imitate targeted behaviors by viewing her or himself successfully performing behavior” (Dowrick, 1999)
- “Video self modeling is a strength-based, efficient, and durable intervention that has demonstrated efficacy in treating a variety of student problem behaviors.” (Dowrick, 1999; Hitchcock, Dowrick, & Prater, 2003)

# Theoretical Basis for VSM

## Social Learning Theory (Bandura, 1977, 1997)

- Learning and imitating is gained through observation
- Self-Efficacy develops through the perception of themselves as successful
- Attention and motivation are moderating variables.
- Through VSM, extraneous details can be removed to provide focus on the essential aspects of the targeted behaviors

# Application and Research Basis for VSM

- Language development (Buggey, 1995; Haarman & Greelis, 1982; Wert & Neisworth, 2003)
- Reading fluency (Decker, 2001; Greenberg, Buggey, & Bond, 2003; Hitchcock, Prater, & Dowrick, 2004)
- Daily Living Skills (Miklich, Chida, & Danker-Brown, 1977)
- Depression (Kahn, Kehle, Jensen, & Clark, 1990)
- Self-efficacy (Schunk & Hansen, 1989)
- Disruptive and Non-compliant Behaviors (Buggey, 2005; McCurdy & Shapiro, 1988; Hosford & Brown, 1976; Creer & Miklich, 1970)

# Application and Research Basis for VSM

- Mathematics (Schunk & Hanson, 1989)
- Stuttering (Bray & Kehle, 1996)
- Social Engagement (Bellini, Akullian, & Hopf, 2007; Bugghey, Toombs, Gerdener, & Cervetti, 1999; Hepting & Goldstein, 1992; Pigott & Gonzales, 1987)
- Motor Skills (Dowrick, 1983; Dowrick & Dove, 1980)
- Selective Mutism (Kehle, Madaus, Baratta, & Bray, 1998)
- Attention Difficulties (Davis, 2004; Hartley, Bray, & Kehle, 1998)

# Research Basis for VSM for Autism Spectrum Disorders

- There is a growing body of research for VSM's effectiveness in regards to social skills, behavioral functioning, and communication (Bellini, Akullian, and Hopf, 2007)
- VSM combines two effective techniques for students with ASD (visually cued instruction & modeling)
- VSM is most effective with children who liked watching themselves/preferred visual learning (Sherer et al., 2001)
- Results show that the skills acquired using VSM were generalized across settings and maintained over time



# Research Basis for VSM for Autism Spectrum Disorders

A Meta-Analysis of VSM (Bellini & Akullian, 2007)

- VSM increased spontaneous verbal requests (Wert & Neisworth, 2003)
- Increase in initiation skills and reciprocal play behaviors (Nikopoulos & Keenan, 2004)



# How does VSM work?

- Strength based educational programming
- Positive approach to promoting appropriate student behaviors rather than exclusively decreasing negative behaviors
- Can target specific skills that are essential in development
- Outcomes can be maintained and skills can be transferred across settings
- Videos are portable
- Collaboration between parents and staff are easily facilitated

# Utility of VSM

- Can be used with diverse student populations to:
  - Promote the acquisition of a skill
  - Increased performance of a skill
  - Reduce problem behaviors
- Works with AU population, as well as other populations, such as ED, ID, ADHD, to:
  - Teach language
  - Functional skills
  - Social skills
  - Adaptive behaviors
- Can be used with behaviors that have been resistant to other interventions
- Works well with visual learners
- Provides high motivation since videos of self are highly desired

# Examples of Social Skills to target with VSM

- Social responses
  - Responding to questions, greetings or compliments, accepting a toy
- Social engagement
  - Taking turns, talking, playing games
- Social initiations
  - Requesting information/assistance, joining in play, providing compliments, greeting, giving/sharing

(Bellini, Akullian, & Hopf, 2007)



# Types of VSM

- Positive Self Review

- Student views behaviors currently in repertoire
- Purpose: For low frequency, already mastered behavior



- Video Feed Forward

- Student possesses a component of the social skill; however, hidden supports are utilized and then edited out
- Purpose: To increase the likelihood of the targeted behavior

# Positive Self Review

- Student views behaviors currently in repertoire that may not frequently manifest
- Video focuses on displaying the child's success with the target behavior.
- Purpose:
  - For low frequency, already mastered behavior to be reinforced through the child watching themselves succeed in the desired behavior.
  - Build self-efficacy in the child to perform the behavior in the natural environment.
- Examples:
  - Eating food with utensils
  - Brushing teeth
  - Sitting in a chair in class

# Video Feed Forward

- Child possesses a component of the social skill; however, hidden supports are utilized and then edited out.
- These target skills are ones that some children diagnosed with autism may not be able to perform naturally.
- Purpose:
  - To increase the likelihood of the targeted behavior
  - Introducing a new skill or behavior
- Examples:
  - Speaking in short sentences.
  - Performing multi-step actions
  - Requesting something from an adult



# Another VSM Technique to Consider

- Filming the VSM in first person perspective
  - Can be utilized either with positive self review or feed forward methods.
  - Filmed from the observer's perspective (student watching themselves do the behavior) or from a "Point of View" perspective where the video is recorded as if the student is watching their behavior from their own eyes.
  - Can be effective for some children to see the video filmed from their perspective.



# VSM in Comparison to Social Autopsy or Peer Modeling

- Social Autopsy
  - A video based intervention that utilizes the child observing themselves within the natural environment.
  - Focuses on specific target behaviors and is typically used in conjunction with a therapy or other interventions.
  - A facilitator or group leader leads the discussion.
- Little research has supported video based social autopsies.
- Why VSM is preferred: Whereas VSM targets only positive behaviors, social autopsies may focus on revisiting the negative behaviors and possibly causing the child to feel shamed for not performing the behavior correctly

# VSM in Comparison to Social Autopsy or Peer Modeling

- Peer modeling - a form of video modeling
  - Similar to VSM in many ways; however, the obvious difference is that the child is viewing a peer perform the target behavior rather than themselves.
  - A meta-analysis conducted by LeBlanc (2010) notes that peer video modeling is typically effective for older children, adolescents, and adults with ASD.
  - Although it may prove effective for these populations, it does not appear to be a viable intervention for lower functioning individuals and children of younger ages.
- VSM has been found to be effective in children across age ranges and ability (Bellini & Akullian, 2007)

# Application of VSM – Steps to Addressing a social behavior

1. Identify the behavior to work on – through parent interviews, observations, teacher feedback
2. Determine the function of the behavior – complete a FBA on the target behavior
3. Identify some positive replacement behaviors – to utilize in the intervention video
4. Figure out how to get the replacement behaviors on video

Role plays

Modeling/Imitation

Scaffolding supports

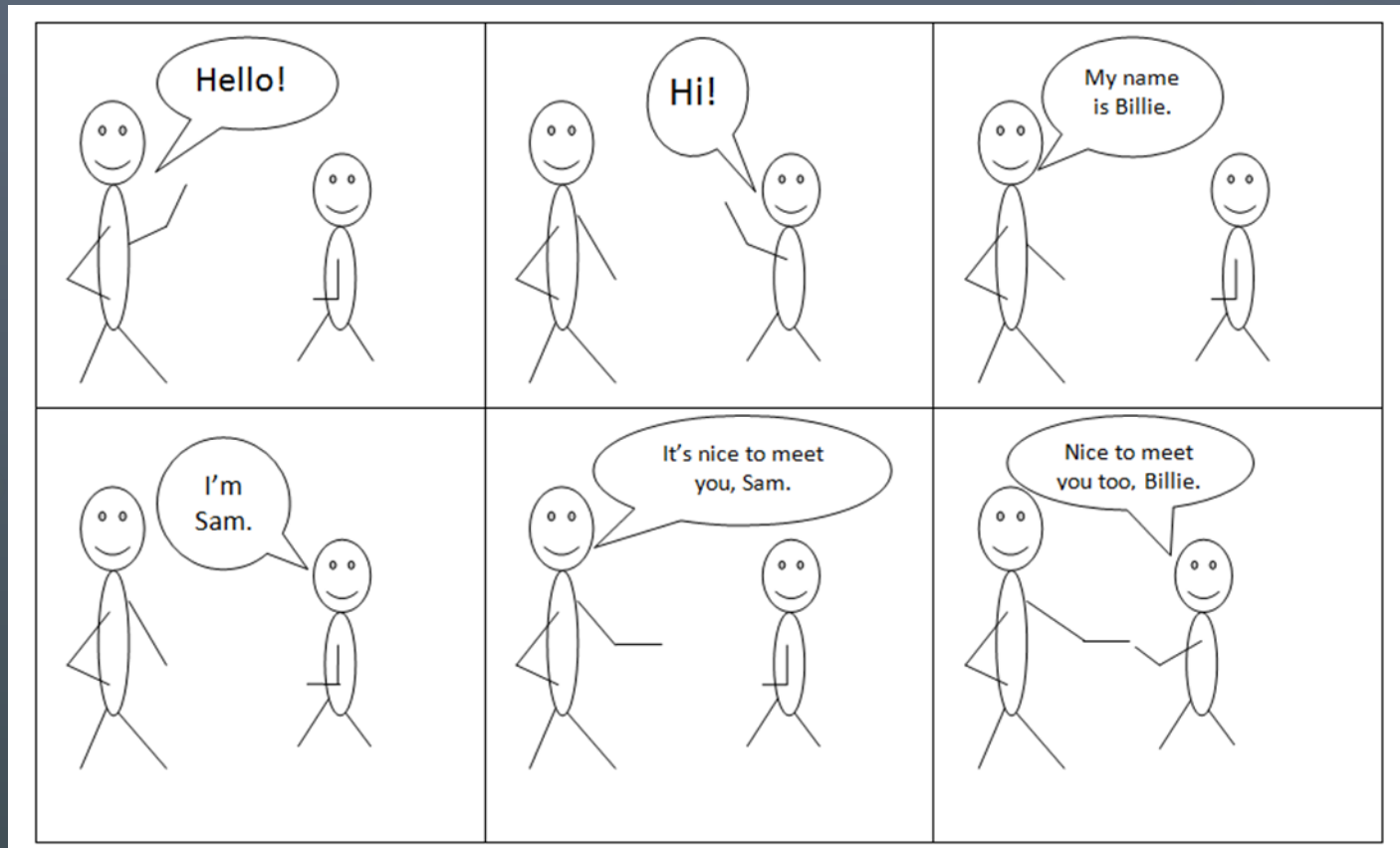


# How to address social deficits with VSM

- Different formats for filming
  - Make a story board or provide other visual cues
  - Unscripted or naturalistic
  - Movie set-up with a director, star, and co-star
  - Practice role plays before filming
  - Utilizing clips for a social story



# Example of a Story Board



# Steps to addressing a behavior using Music Therapy and VSM

1. Identify the behavior or skill to work on
2. Determine the function of the behavior
3. Identify some positive replacement behaviors
4. Utilize MT to help teach the new skills or increase the frequency of a skill
5. Figure out how to get the replacement behaviors on video

Role plays

Modeling/Imitation

Music Therapy



# Preschool VSM and Music Therapy Intervention

- Demographics - 4 males (ages 5, 5, 4, 4), 1 female (age 5)
- Eligibilities - Joubert Syndrome, Autism, Speech, Hearing Impairment
- All participants were part of a PPCD classroom
- Parent and teacher consent was obtained

# Example of Target Goal

Student 5 will remain seated appropriately in his chair, with or without a verbal prompt, for at least three minutes, 1 out of 5 opportunities, during a 30 minute class period.

- Utilized music therapy with a song integrated into VSM to help teach the skill





# Example of Preschool VSM Movie

# Example of Target Goal



- Student 3 will increase social communication as measured by responding to simple greetings and questions and statements such as “Hello” and “How was your day?” with or without a verbal prompt 20% of the provided opportunities during a 30 minute class period.

# Example of Preschool VSM Movie

## Feedback from Preschool Group

- “He really loved the music therapy. I would catch him singing the songs at home.” – Parent
- “The music therapy was a hit. I wish we had a music therapist in our district.” - Teacher
- “Even though the project is over, he still requests to watch his movie. I use it as a reward for good behavior.” - Teacher

# Other application videos

# VSM Do's

- Get informed consent
- Depict positive behaviors
- Select developmentally appropriate behaviors
- Keep the video under 5 minutes (2-3 minutes is best)
- Ensure confidentiality if the video is to be used by schools or agencies
- Make the entire process fun
- Include child in the planning as much as possible
- Learn new technology skills
- Allow the child to view the video daily and when requested (if possible)
- Allow the child to watch the video without adult comment/feedback (if possible)

# With VSM, it is best *not* to...

- Depict any negative behaviors
- Select behaviors that are too advanced
- Get carried away with editing by using too many special effects (i.e., colors, sounds)
- Begin without obtaining parental consent
- Force the child to watch the video
- Show videos that will not hold the child's attention (too long, text when the child cannot read)





# Examples of different types of VSM Intervention Movies



# Summer

- 5<sup>th</sup> grader
- Low functioning
- Target behavior: distracting movements and sounds in class
- Video needed to be simple
- Ability to read



# Bryan

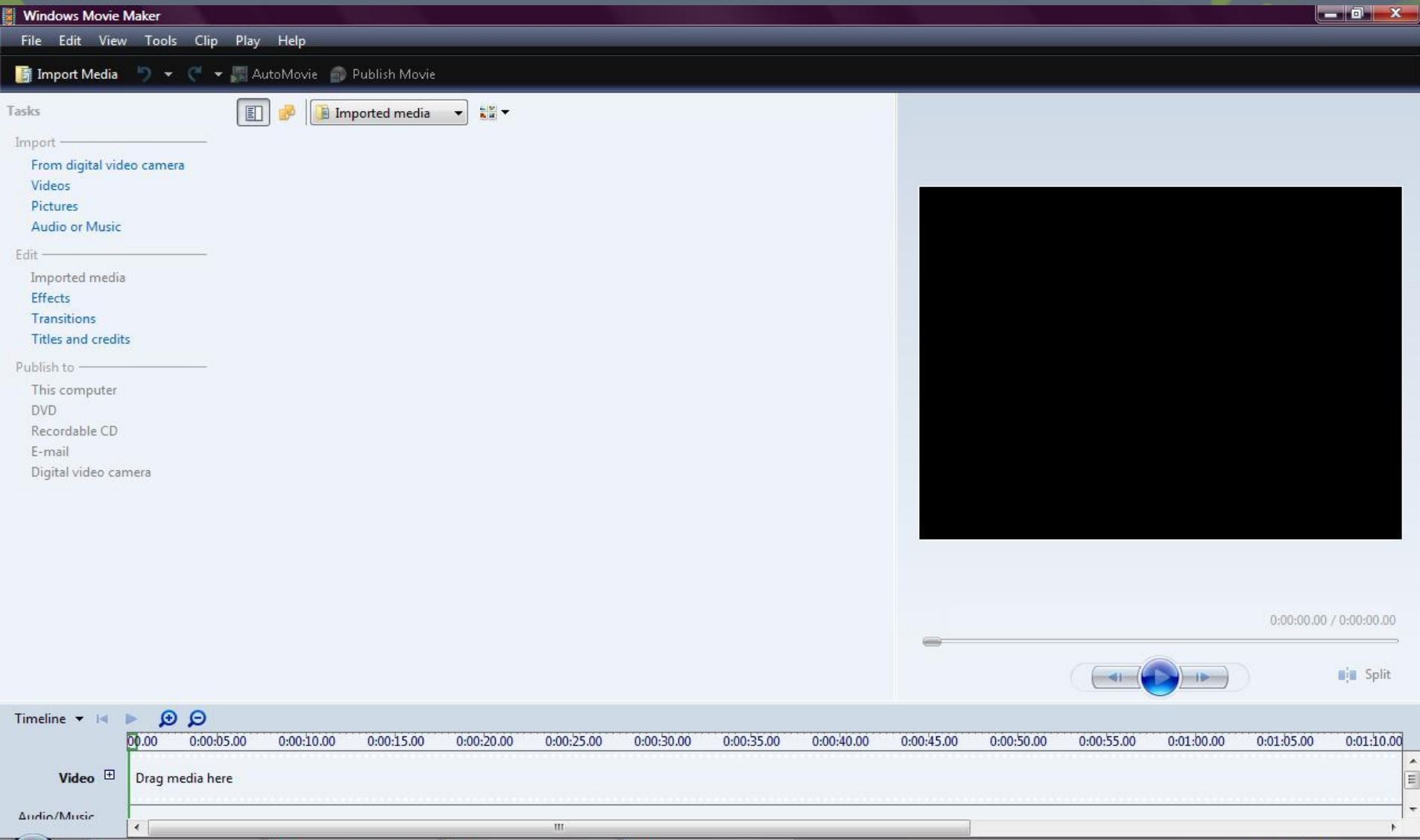
- Emotional Disturbance
- Target: reacting angrily when things do not go his way
- Video needed to be bright and attention-grabbing

# Bryan Keeps it Cool

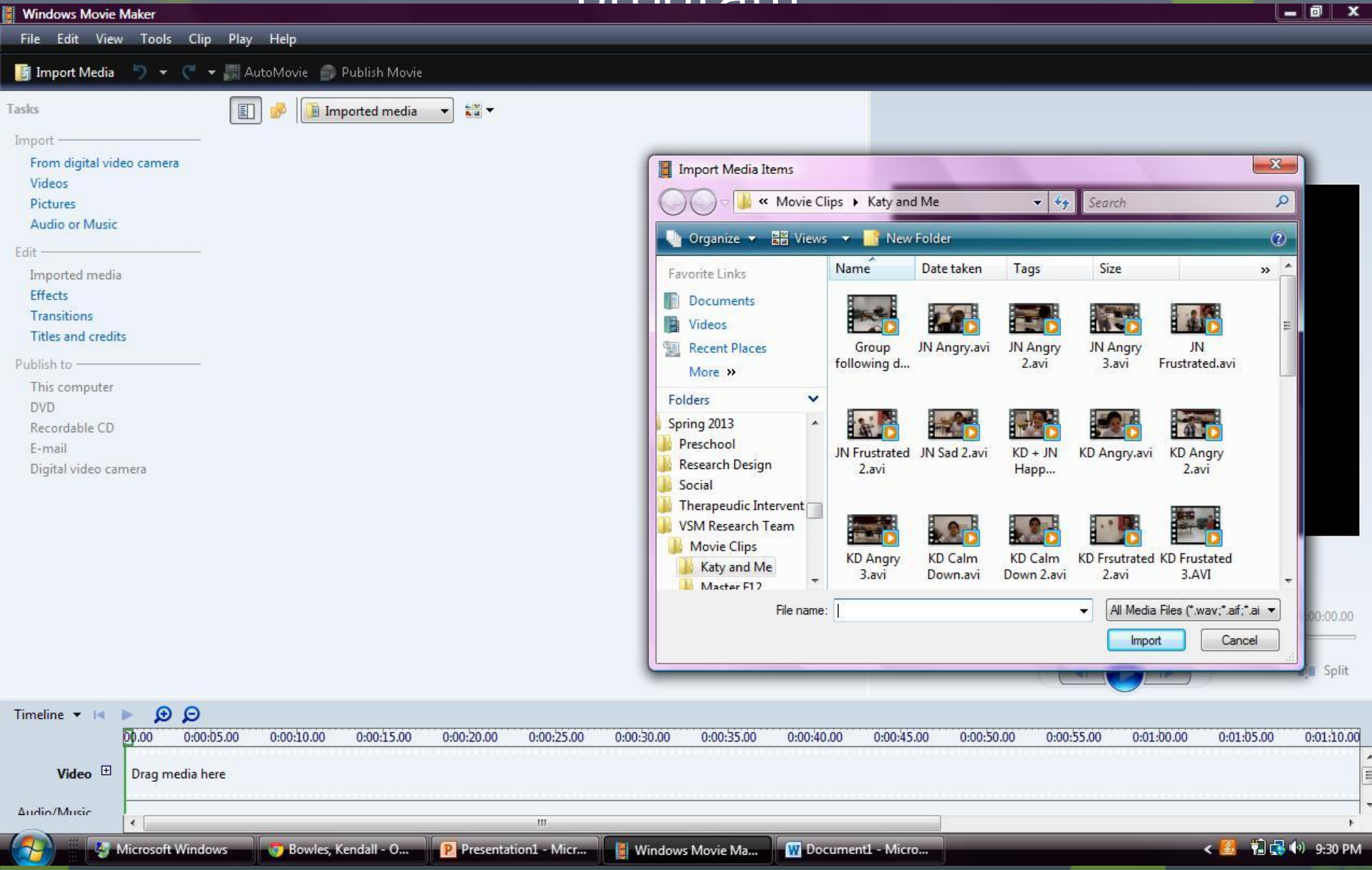
Starring: Bryan  
Co-Starring: A.J. + Mr. Carter

# How to Edit Your Videos

# Step 1: Open your video editing program

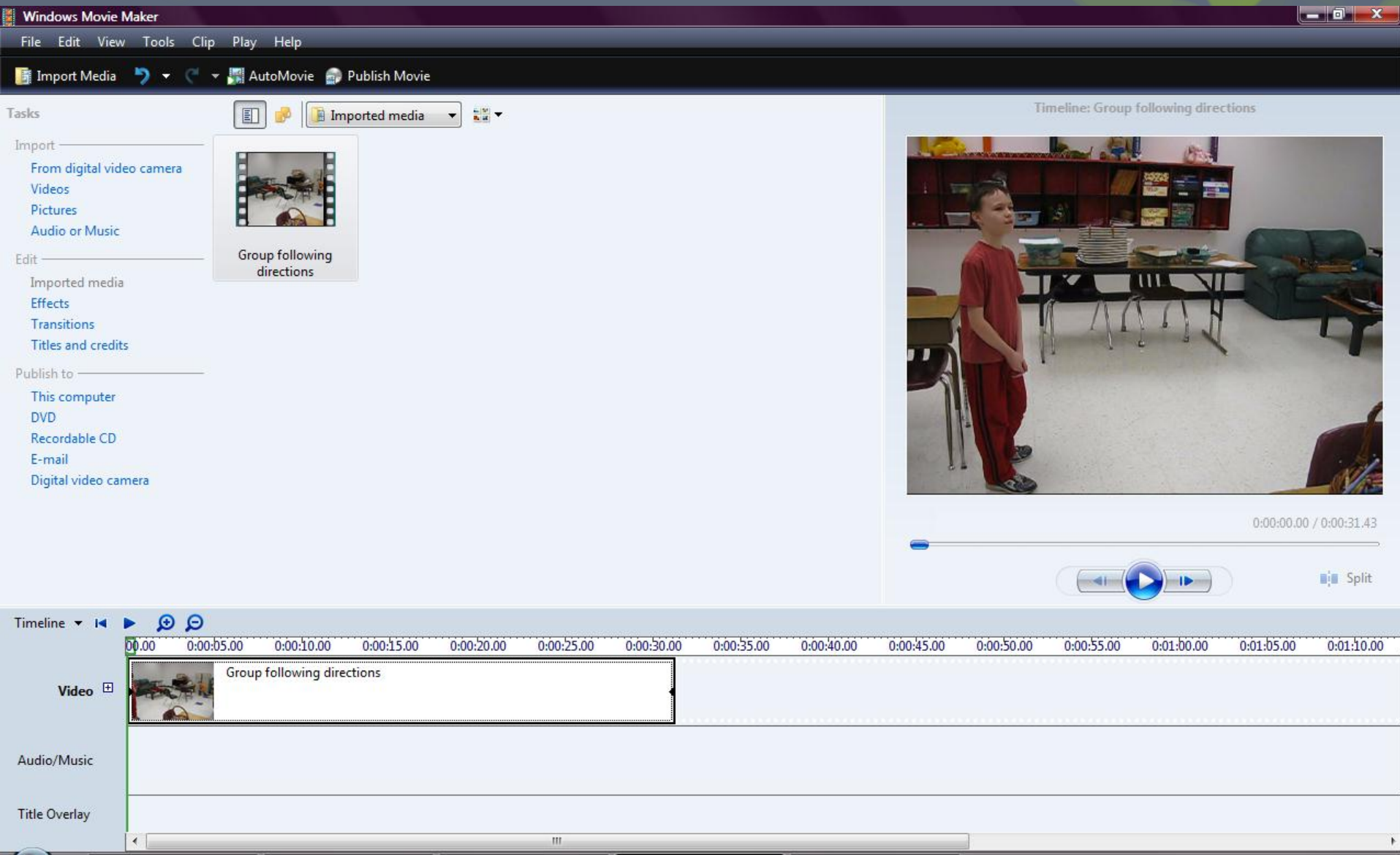


# Step 2: Import recoding from camera into program





# Step 3: Drag clip to editing timeline





# Step 4: Edit by Splitting

Windows Movie Maker

File Edit View Tools Clip Play Help

Import Media AutoMovie Publish Movie

Tasks

Import

- From digital video camera
- Videos
- Pictures
- Audio or Music

Edit

- Imported media
- Effects
- Transitions
- Titles and credits

Publish to

- This computer
- DVD
- Recordable CD
- E-mail
- Digital video camera

Imported media

Group following directions

Timeline: Group following directions

0:00:14.50 / 0:00:31.43

Split

Timeline

Video

Group...

Group following directions

Transition

Audio

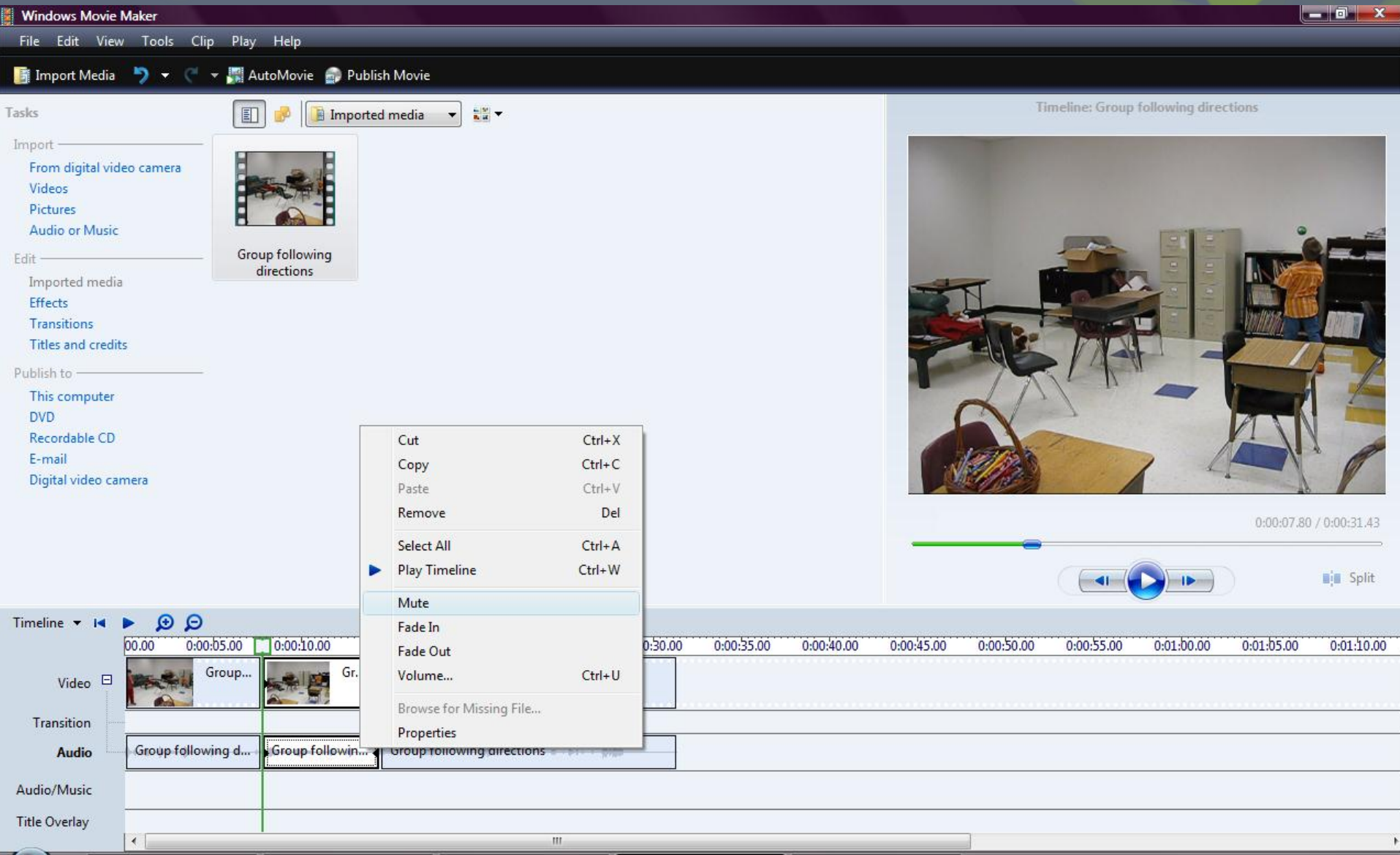
Group following d...

Group following directions

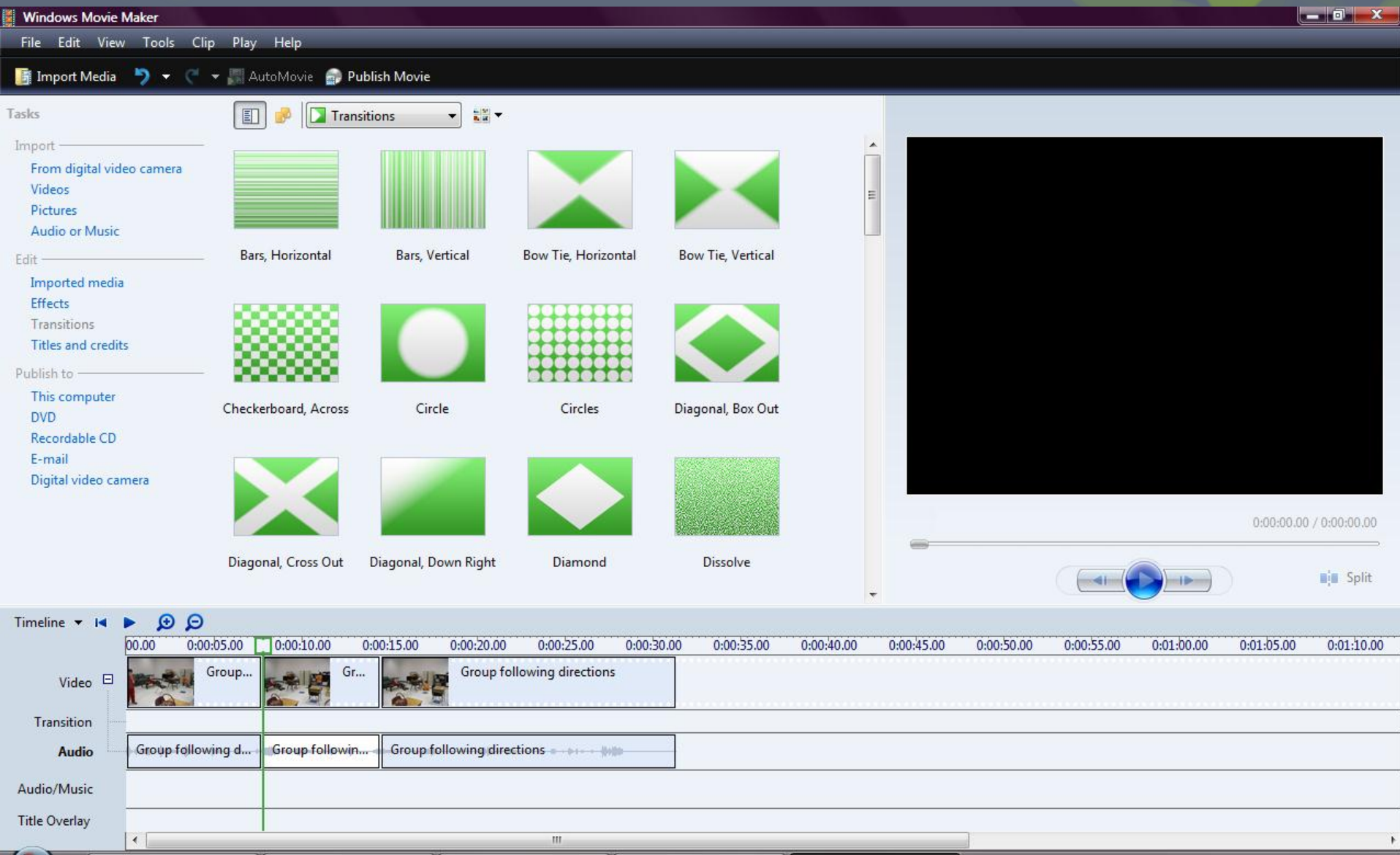
Audio/Music

Title Overlay

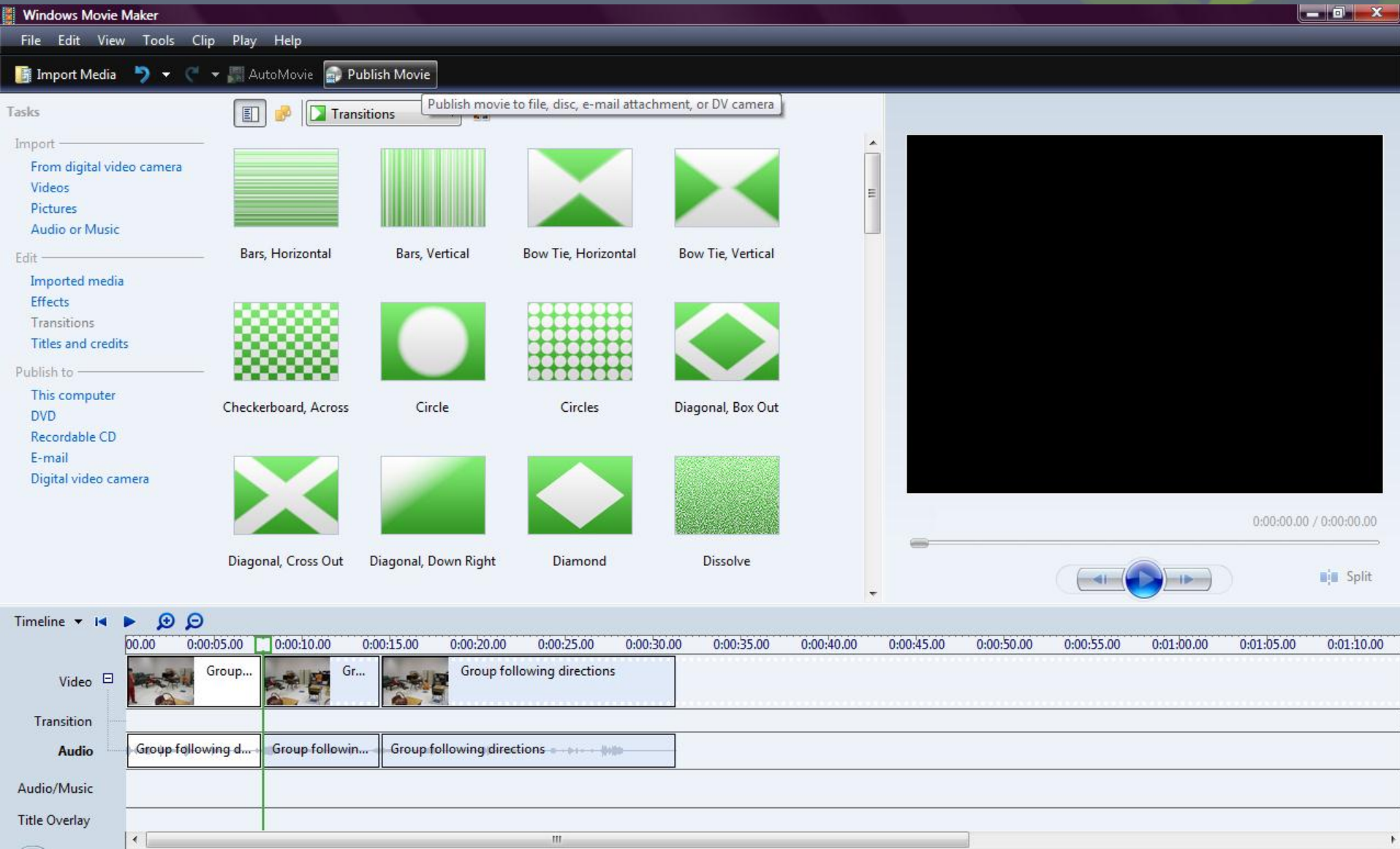
## Step 5: Remove unwanted sound



# Step 6: Add Transitions and Title



# Step 7: Publish Movie





# Editing VSM Videos

- Becomes very easy after becoming familiar with the software.
- The best way to become familiar with your software is to play around with it.
- Utilizing tablets and handheld devices makes the video editing process fairly simple.

# Video Editing Example

Handout for Reference – “A Helpful Step-by-Step Guide For Creating and Editing Your VSM Movie”

# Pros & Cons of VSM



# Filming

## Pros

- Easy with tripod
- Variety of camera options
- Most kids will love it
- Gives kids a chance to practice their social skills
- For positive self-review, can leave camera running



## Cons

- Need to have access to a camera
- Can be intrusive/intimidating at first
- Feed Forward method, can be a hassle to continually start and stop filming  
\*usually helpful to have two people
- Can take several times to get good footage



# Filming Tips

## Remember

- Double-check that batteries are charged/camera plugged in and on
- Make sure that the movie format the camera uses is compatible with Windows/Mac
- Do extra takes even if you think you've "got it"
- Begin filming early (practice rounds) to give kids a chance to get used to being on camera

# Editing

## Pros

- Easy with today's preinstalled software
  - Windows Movie Maker
  - iMovie

## Cons

- Takes time, but does get quicker with practice

Video Example of Editing:  
Before and After

# Before



After



# Video Viewing

## Pros

- Most kids enjoy seeing themselves in the video
  - Enjoyable to be the "star"
- Focusing on strengths, kids all too often hear mostly negative feedback
- Build self-esteem
- Long-term skills for academic and job success, and interpersonal relationships

## Cons

- Kids will not attend:
  - If too long
  - If text is used and they cannot read
- Time consuming for teachers/parents
- Technology intimidation



# Maintenance of Skills

- Finding ways to add in secondary goals into the movie to maintain previously learned behaviors or skills
  - Example: Video on following directions that incorporates fine motor abilities
  - Example: Video on recognizing feelings that includes asking for help when needed
- Building on old skills over time to ensure that they are maintained
  - Unique example of student who participated in the intervention for two years
- Observations and check-ins with teachers and parents will help determine if skills are being maintained over time



# How to Handle Resistance to the Intervention Process

- While most children enjoy the process of making their movie and watching it, some may show resistance to filming and/or watching their movie
- **Resistance to filming:**
  - Implement a reward system (if not already in place) or add additional reinforcers
    - Find out what the child enjoys the most and try to incorporate that into the filming process (i.e., music, toys, games, etc.)
  - Start filming early so that the child gets used to the camera
  - Always speak in an encouraging tone
  - Let the child have a turn “directing” the movie
  - If it’s just not happening for the child that day, don’t push it
  - If the child continues to show resistance, have an age appropriate conversation about the process to ensure that they understand why they are being filmed

# VSM example to help overcome resistance

## ○ **Resistance to watching the movie:**

- Determine why the movie is aversive to the child
  - Look for certain triggers within the movie and address those with editing if possible
- If it is the behavior or skill that the child does not like watching (i.e., compliance) find way to counter the perceived negativity in the movie (example of Noah)
  - Video editing programs make it easy to add in music, colors, and sound effects that may increase buy in from the child
- Be mindful of too much or too little stimuli in the movie (this varies significantly from child to child)
- Get to know the child and their likes and dislikes before the filming and editing process



# VSM example to help overcome resistance



# VSM example to help increase “buy in”



# Feedback from parents and teachers

- "I don't think any movie could have been better! It was a total 180 from the first video that he did not care for."
- "He absolutely loves watching his movie. When we can tell he is having a rough day, we put it on for him and it completely calms him down. Sometimes he will even ask for it on his own."
- "We have heard him recently use the words: mad, sad, and frustrated to describe his feelings. He used to only use the word upset for everything."
- "When you are able to verbalize your emotions your whole outlook changes. I think VSM has helped him with that. He is recognizing his own emotions which makes things more clear for us"
- "We have noticed improvement in his demeanor, attitude, and ability to handle situations"

# Diverse Application of VSM

- VSM and Executive Function and working memory
  - Evidence supports that VSM may be a viable cognitive rehabilitation intervention for deficits in working memory and other executive function components.
  - VSM intervention videos filmed in a procedural learning style where each step was broken down into component parts and then together
- More studies are being conducted by the research team to help determine how viable of an intervention it is for executive functions.



# Diverse Application of VSM

- Emotional Disturbance across elementary, middle, and high school populations targeting compliance and self-esteem
- Current sub-team intervening with children and adolescents who have experienced a Traumatic Brain Injury and evidence deficits in working memory, problem solving, and processing speed
- Additionally, applying VSM to support teachers in utilizing precision requests in the classroom with students engaging in non-compliant behaviors
- Using VSM as a preventative measure through the RtI process to target verbal and physical aggression prior to a special education referral

# The possibilities are endless...

- VSM is a very flexible intervention modality that can be individualized to match the area of need
- VSM has a strong research base for autism, with a growing foundation in other areas
- VSM is a strengths-based approach that builds self-esteem as they are seen being successful
- Technological advances has made this type of intervention easily accessible
- VSM can be implemented across settings to increase generalization

# Questions and Discussion





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