

# Video Self-Modeling: The Effectiveness in School Populations

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# Video Self-Modeling (VSM)

- Importance of Intervention
- Overview of VSM
- Theoretical Basis for VSM
- Review of Literature in the field
- Utility of VSM, Types of VSM
- Pros and Cons of VSM Intervention Movies
- Filming and Editing Videos
- Examples of Videos
- Application – How to make a VSM movie
- Setting up and an example of a VSM intervention program
- Feedback from Parents, Teachers, and Students
- 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
- Possible decrease in anxiety vs. in vivo role plays
- 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; Bugey, 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

- 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 Do's

- 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
- Get informed consent
- 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)

# Steps to addressing a social behavior using VSM

1. Identify the behavior to work on
2. Determine the function of the behavior
3. Identify some positive replacement behaviors
4. Figure out how to get the replacement behaviors on video

Role plays

Modeling/Imitation

# How to address social deficits with VSM

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



# 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 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



# Editing: Before and After



Before

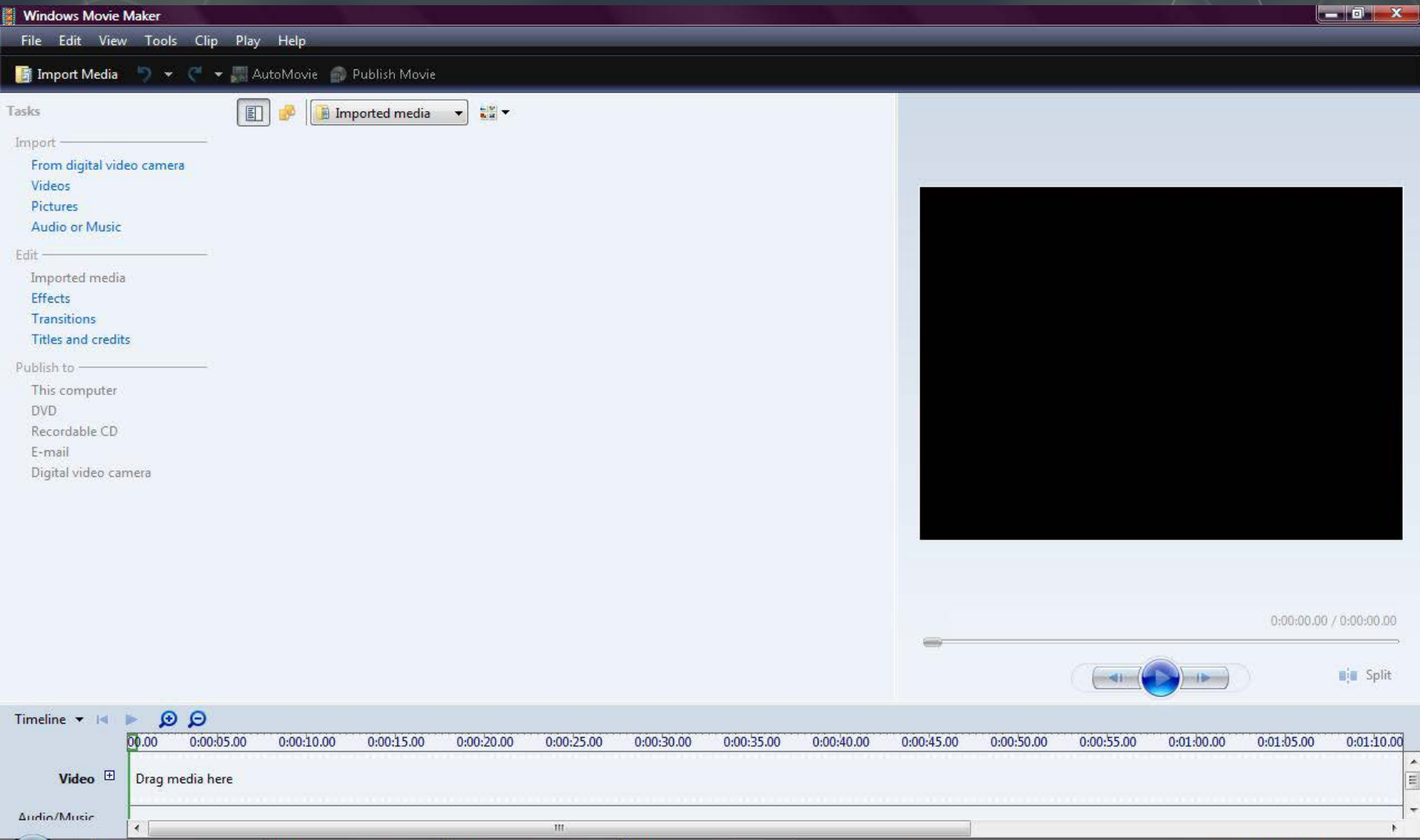


After



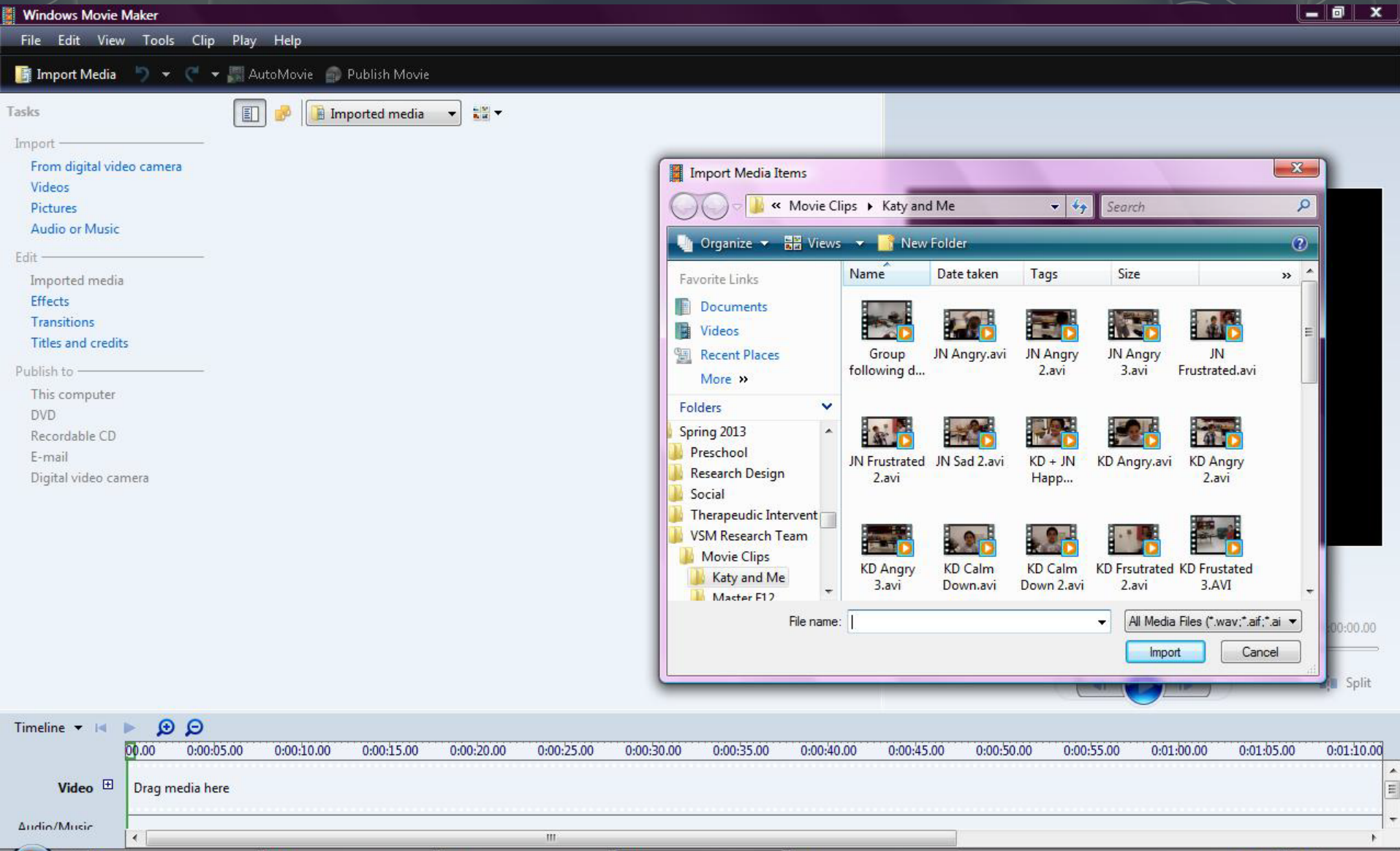
# How to Edit Your Videos

# Step 1: Open your video editing program





# Step 2: Import recoding from camera into program



# Step 3: Drag clip to editing timeline

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

0:00:00.00 / 0:00:31.43

Split

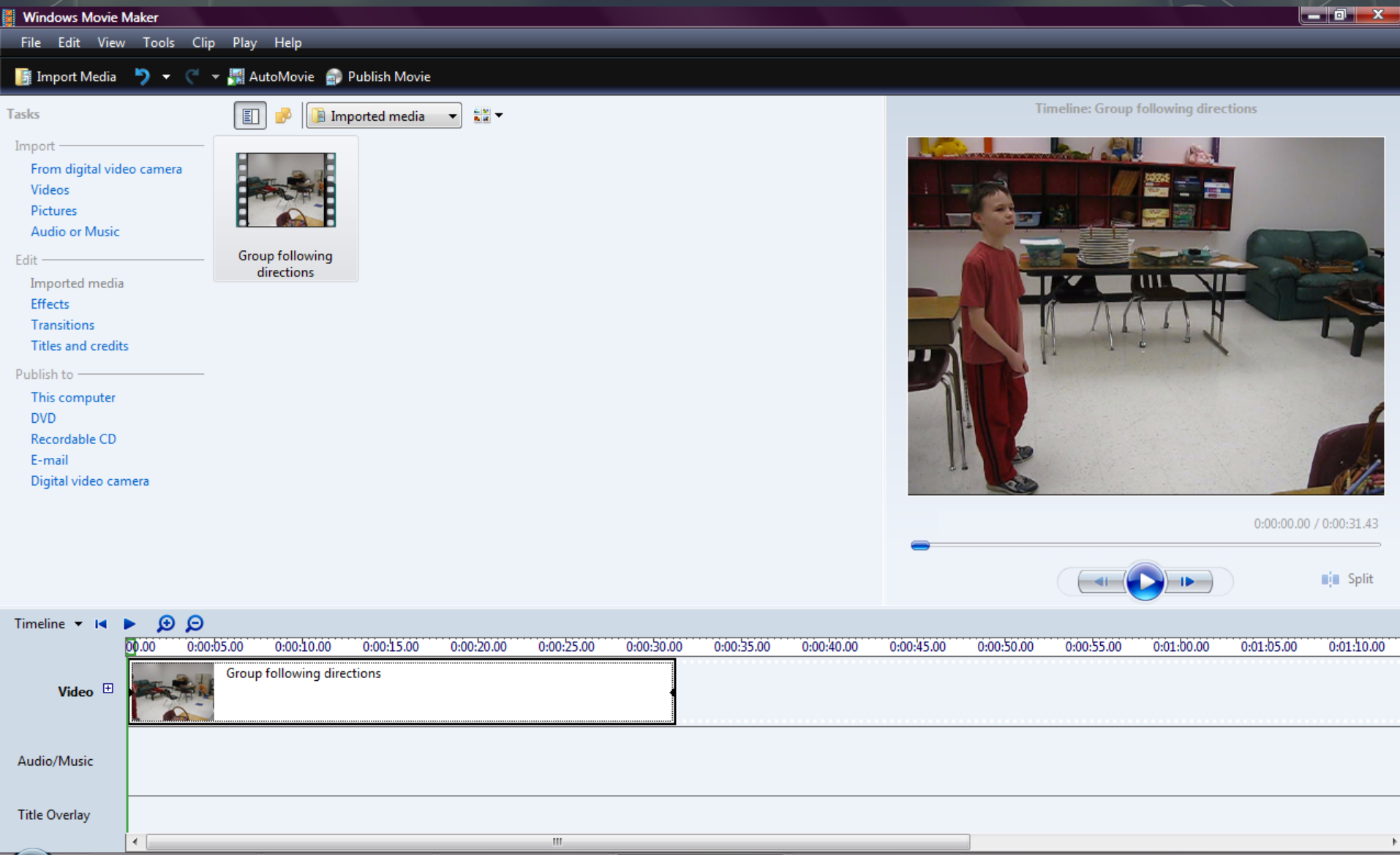
Timeline

Video

Group following directions

Audio/Music

Title Overlay





# 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

Group following directions

Timeline: Group following directions

0:00:14.50 / 0:00:31.43

Split

Timeline

Video

Group following directions

Transition

Audio

Group following d... Group following directions

Audio/Music

Title Overlay

# Step 5: Remove unwanted sound

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

0:00:07.80 / 0:00:31.43

Mute

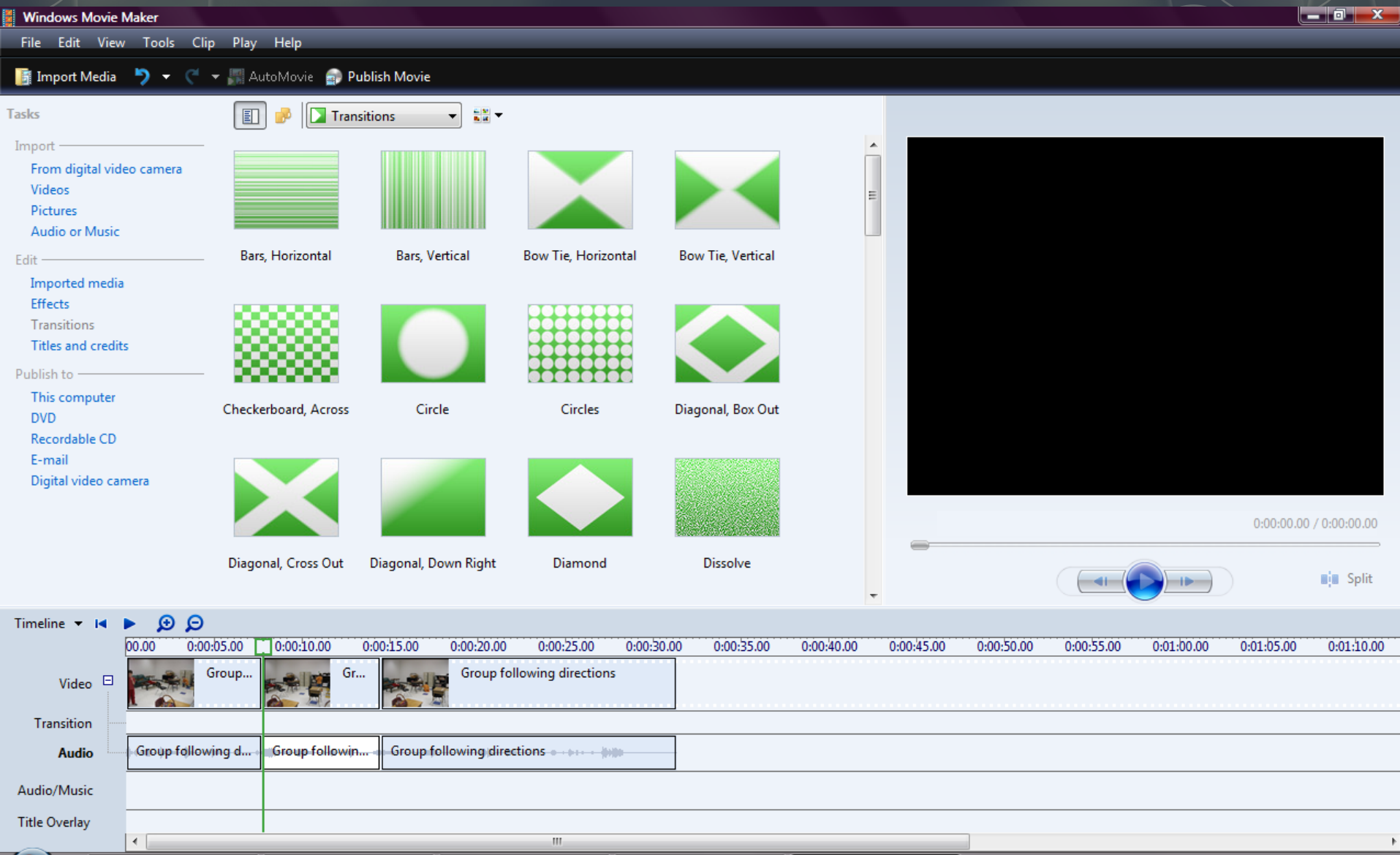
Group following d... Group followin... Group following directions

Audio/Music

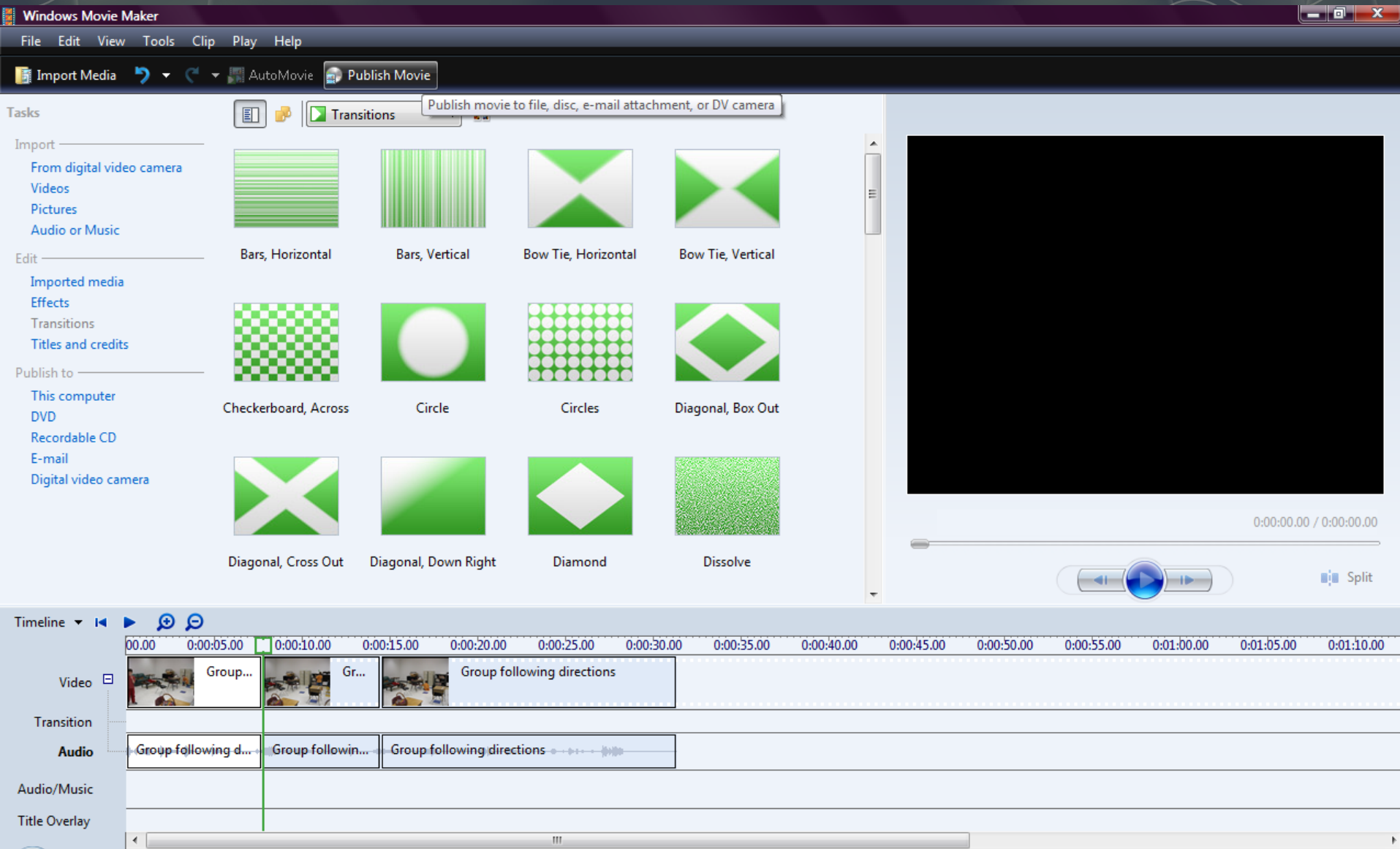
Title Overlay

The screenshot shows the Windows Movie Maker interface. The 'Imported media' task pane on the left shows a video clip titled 'Group following directions'. The main preview window displays a classroom scene with a teacher and students. The timeline at the bottom shows the video clip and an audio track labeled 'Group following directions'. A right-click context menu is open over the audio track, with the 'Mute' option highlighted. The menu also includes options like Cut, Copy, Paste, Remove, Select All, Play Timeline, Fade In, Fade Out, Volume..., Browse for Missing File..., and Properties. The timeline shows the video clip from 0:00:00 to 0:00:10:00 and the audio track from 0:00:00 to 0:01:10:00.

# Step 6: Add Transitions and Title



# Step 7: Publish Movie



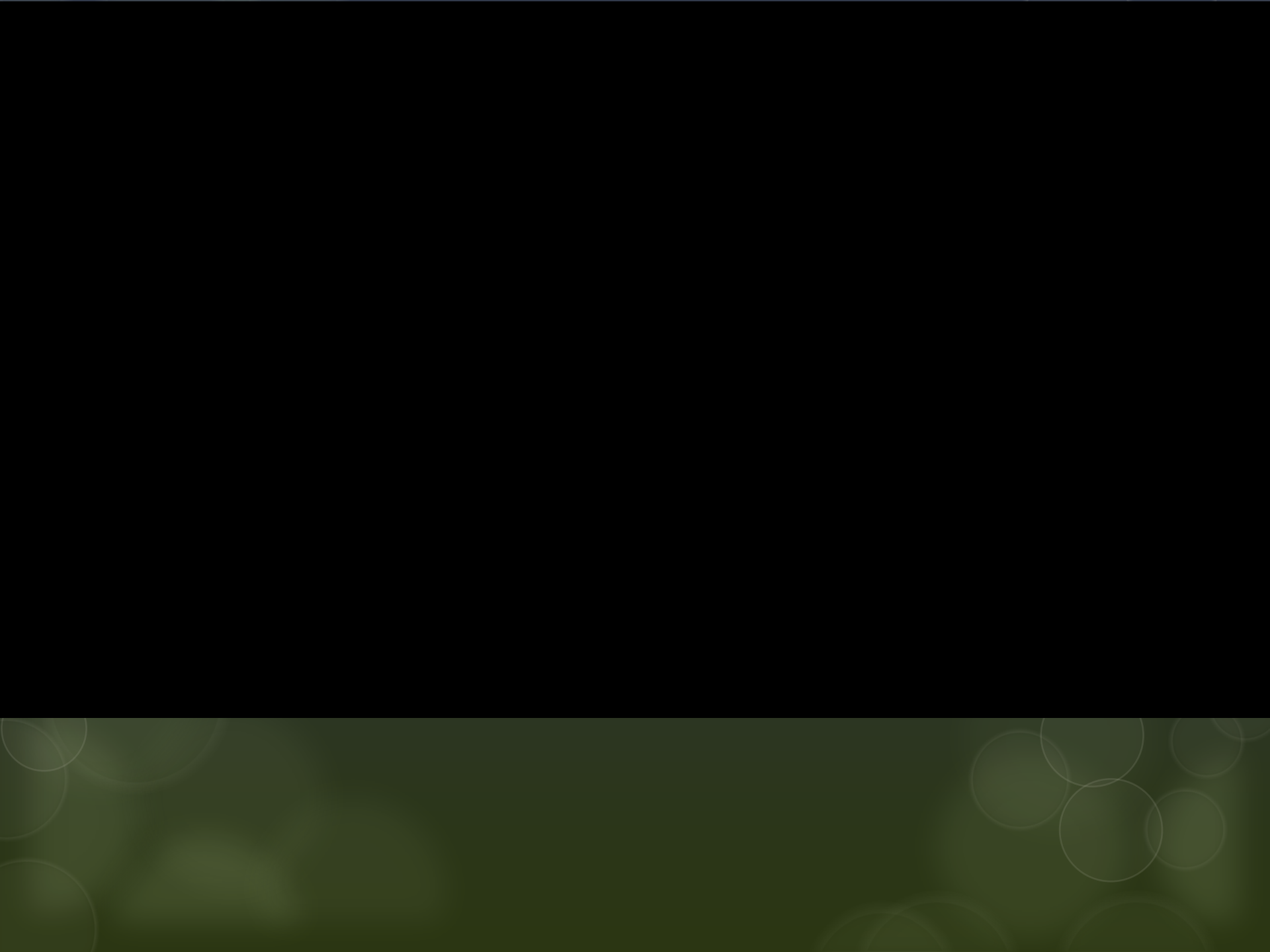


# Video Editing Example

Handout for Reference

# Videos Examples







# Bryan Keeps it Cool

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



# Example of VSM Intervention for Autism

- The primary purpose of the study is to examine the efficacy and utility of VSM interventions with children and adolescents with autism by targeting behavioral, social, or functional/adaptive skill deficits.
- A secondary goal is to determine the usefulness of this intervention to parents and teachers and the social validity of using VSM in the schools. With most teachers feeling overwhelmed by trying to balance expectations related to state testing, teaching, federal guidelines, and paperwork, it is crucial to find interventions that are not only cost-effective but also user-friendly. If an intervention is too time-consuming or effortful, then it will likely not be utilized in the classroom.

# VSM Example

- VSM is an intervention where a positive behavior is captured on video through the use of supports such as peer modeling, direct teaching of the skill, or role-play situations.
- The video is then edited where the supports are removed and the final product is a 2-3 minute “movie” where the child views him/herself engaging in only the positive, desired behavior.
- A multiple-baseline across persons design was utilized with pre-testing and post-testing to determine if there is an increase in the desired behavior across settings.



# Overview of Study

- The participants were currently enrolled elementary, middle, and high school students from four special educational classes in a suburban school district north of Dallas, TX. The dependent variable will be the increased frequency or quality of behavioral, social, or functional goal designed for each individual. Each participant will be a part of a small group with baseline data collected on each individual. Once consent is obtained from the parent or adult student, the research will begin with three distinct phases – the baseline assessment phase, the VSM intervention phase, and the post-intervention assessment phase



## **Phase One – Baseline Assessment Phase**

- 1. Parent Interview**
- 2. Teacher Interview**
- 3. Student Interview**
- 4. Two Classroom Observations**
- 5. Structured Classroom – Completion of the SSIS parent and teacher form, and BASC-II parent and teacher form (child or preschool depending on student's age).**

**The baseline assessment phase should be completed over approximately a 2 week period.**

## Phase Two – VSM Intervention Phase

1. Group session #1 - focus on building rapport between the facilitator/s and the participants, discussion of confidentiality, session activities, and positive reinforcement.
2. Group session #2 - engage participants in role plays (e.g., acting out scripted scenarios of positive behavior) and activities to practice the desired behavior.
3. Group sessions #3 and #4 - focus on obtaining the desired behavior on video through peer modeling, role plays, or scaffolding supports (i.e., leader prompting what to say or modeling how to act out the behavior).
4. Group session #5 - allows each participant to watch their movie 10 consecutive school days and gain reinforcement for watching it on non-session days.
5. Group session #6- conclude the sequence by discussing the positive behavior and how to generalize that behavior to new settings.

The intervention phase will take place over a 6-8 week period.

## Phase Three – Post-Intervention Assessment Phase

1. Two classroom observations
2. Parent and Teacher Post-Intervention Interview
3. Student Post-Intervention Interview
4. Structured Classroom – Completion of the SSIS parent and teacher form, and BASC-II parent and teacher form (child or preschool depending on student's age).
5. Parents and teachers will be provided with the results in the form of graphs charting the frequency of the targeted behavior before and after the VSM intervention.
6. Parents will also be provided the VSM movie of their child if desired.

The post-intervention phase should be completed over approximately a 2 week period.

# Parent Feedback Data

- Percent of Change from Pre-Intervention to Post-Intervention
  - “How much does this behavior negatively impact your child’s educational progress?”
    - Pre-data (6.21 out of a 10 point scale) vs. Post-data (3.31 out of a 10 point scale)
- Post-Intervention Data
  - “How beneficial was VSM in addressing the behavior or skill deficit?” (7.8 out of 10)
  - “How likely are you to recommend implementing VSM in the future?” (9.3 out of 10)
  - “Did your child appear to enjoy making the movie and participating in the intervention?” (9.63 out of 10)

# Parent Quotes

- "He used to ask me to do everything - get a drink of water, help him with getting ready for bed. Since watching, he has done these type of things on his own."
- "We recently went to Six Flags with some cousins we see once a month. He is usually shy and does not converse with them. This time he was talking and answering questions, and he actually asked a couple on his own."
- "He has been expressing when he is frustrated by saying 'I'm frustrated' instead of acting out. He seems to have gotten better at recognizing AND expressing emotions."
- "He took away more than we'll know. This is something we definitely want to continue in the future."

# Positive Feedback from Parents

- “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”
- “I have seen improvement in his speech as well as his engagement and communication”



# Teacher and Student Feedback

- Teacher - While the student still struggles with occasional breakdowns in the classroom, the teacher noted that during her last breakdown, she kept verbalizing that she was angry... something she did not do prior to the intervention. While the breakdown still occurs, the teacher feels that this was a step in the right direction for this student.
- Student Feedback
  - Post-data – “How much did you enjoy making your movie?” (7.69 out of 10)
  - “He is still watching it – he loves to watch it!”

# Teacher Feedback

- Percent of Change from Pre-Intervention to Post-Intervention
  - “How much does this behavior or skill deficit negatively impact the student’s educational progress?”
    - Pre-data (7.04 out of a 10 point scale) vs. Post-data (3.08 out of a 10 point scale)
- Post-Intervention Data
  - “How easy to implement the VSM intervention?” (9.13 out of 10)
  - “How likely are you to recommend implementing VSM in the future?” (9 out of 10)
  - “Was participating in the project worth the time investment and beneficial to the student?” (8.5 out of 10)

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# Questions and Discussion