

## THE UTILIZATION OF PROVEN TECHNOLOGY IN THE EFFECTIVE INCORPORATION AND IMPLEMENTATION OF INTERACTIVE MEDIA TOWARDS EDUCATIONAL AND PRESENTATION STRATEGIES

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### ABSTRACT

*The concept of a utilitarian and practical media package was developed primarily as a directive teaching tool for the classroom or educational setting though its versatility is by no means limited to this arena. This model is a practical application easily adaptable to any environment, where lecture or instruction is desired, or is a component or portion of a larger program. Its incorporation is easy for users with limited or basic computer proficiency as the design and implementation skills needed are largely used in most media programs and packages today. The model utilizes a simplistic, practicum driven organizational concept where proven technology such as the compact flash drive, any computer and a digital viewing device can be turned into a powerful, yet flexible teaching and/or instructional tool. As a practicum based and useful platform, this digital media package can be quickly designed and implemented by professionals with no extraordinary degree of digital literacy and still be flexible enough to be effective in multiple settings and venues.*

*Keywords: Media, Digital, Lesson Plan, Template, Interactive, Education, Presentation, USB.*

### INTRODUCTION

The effective utilization of digital media in educational and/or other settings has enjoyed both a boon and popularity in recent years as technology has become more accessible and user friendly. The incorporation of powerful and mobile memory devices such as flash drives in conjunction with digital viewing devices has created a scenario where it is extremely easy for professionals with limited or no technical experience to create at least 'packaged' presentations, such as Microsoft PowerPoint®. What is needed, or possible foreseen as the next step in this evolution of accessibility to the 'masses' should be towards a seamless, or near seamless integration of compatible technologies. The concept or actual incorporation of multiple packages or platforms such as entire curriculum or multi-level presentations that are not only easy to create but are mobile and flexible enough for change and/or adaptation is possible and is potentially the perfect scenario or utilization for both the educational and professional arenas. The challenge is to define or create

this platform in such a way that it retains a simplistic and easy to use format while still being flexible and powerful enough to be useful.

It is no surprise that some find technology challenging and though it has caught on with many there still exists a 'learning curve'; the quintessential bell curve as defined by statisticians to describe normal population trends (Howell, 2004). This bell curve represents the professionals who are either cognizant or proficient in technology to those who are neither, with the vast majority of those somewhere in between. A truly user friendly platform will need to appeal to the vast majority of these people; basically one standard deviation of the mean or average or roughly sixty-eight percent of all potential users of the product (Creswell, 2008). This is a disparately vast audience that will necessitate a utility that is truly user friendly for novices yet powerful enough for proficient users. To achieve this end, the platform utilizes Microsoft Word® as the base utility though other word processing formats can easily be used. Using Word® as the primary platform for the media program allows for the easy

accommodation of a slew of compatible and well known products and software, which a majority of users are proficient if not expert in using.

The media platform can be defined as essentially nothing more than a page or Word® document from which other documents or programs can be accessed. The page becomes a digital index to other documents, creating an organized digital file, easily manipulated or adapted to a myriad of users based on need or design. The format is non-static, easily malleable, all of which can be incorporated into already created templates, most notably lesson or curriculum designs though business and technology constructs can just as easily be used. The design can, and has been successfully implemented into a sequential and columnar form, useful in curriculums that move from one lesson to the next in an organized sequence or format (See Figure 1). The template has also been successful in a more traditional lesson template form, useful for specific activities or singular lessons (See Figure 2). For a school district or institution the two forms can be combined for a complete digital lesson planning format. With the propensity of highly useable data storage devices most notably that of the ubiquitous flash drive or memory stick, both common names for relatively cheap, small and portable memory devices that are easy to use even for the average or novice professional. These devices can carry or deliver significant levels of memory storage, powerful enough to give its user the ability to carry entire curriculum (possibly more than one), including, though not necessarily limited to worksheets, lecture notes, student activities and assessments. Though

Units and/or Chapters	COE standards/Objectives	Activities and Lessons	Supplemental materials and Reading
Unit I  Behavior and Personality Models		<u>Course Syllabus</u> 1. <u>CFS</u> 2. <u>Principles</u> 3. <u>Syllabus</u> 4. <u>Work due</u>	National Standards: <u>Economic</u> <u>U.S. History</u> <u>World History</u> <u>Geography</u> <u>Government/Civics</u>
Opening Lesson		<u>Opening Activity</u> <u>Ice Breaker</u> <u>Teaching</u> <u>Interaction figure</u> <u>(visual)</u>	<u>State Standards</u> <u>Links</u> <u>Writing</u> <u>Assignment #1</u>

\*Note This is a sample section of a currently used digital curriculum

Figure 1. Curriculum template

Instructor: _____	Subject: <u>Economics</u> _____
Grade: <u>11 - 12</u> _____	
<b>Planning:</b>	
Behavioral Objective: <u>(NSS-EC.9-12.1)</u> - National U.S. Standard Economics - Concepts of Limited Resources (Scarcity)	
Performance Standard(s): Students will understand (to extended proficiency limits) the consequences of the actions of a business or firm in product and energy consumption and its effect on local, national and global resources	
Preview Skill/Activity: <u>Brainstorm Activity</u>	
<b>Instruction:</b>	
Activating Learning Strategies: Build a business <u>activity</u> and <u>handout</u>	
Cognitive Strategies:	
Teaching New Content: Directive Note taking <u>Notes on Resources</u>	
Guided Practice : <u>Business Activity II</u>	
Independent Practice: <u>Resource Worksheet 1</u>	
Summarizing : <u>Questioning/Discussion Questions</u>	
Assessments:	
	Pre-Assessment Questions
	Tests: <u>Resources 1</u>
	<u>Resources 2</u>

Figure 2. Lesson Template

not exactly 'plug and play' as once penned, this technology is as close as the users can get with the advent, or usage of USB (Universal Standard Bus), a standardized interface technology for swapping or integrating peripheral devices to a computer without significant activity, such as re-booting or re-starting (Cooper, Diefenbaugh & Kardach, 2008). These memory devices are compatible with most computers, or any other device operating with a USB port, usually and conveniently located in the front, accessible portions of the instrument. The use of flash drives in education is significant, especially in the collegiate setting where educators move from one classroom to the next, using whatever computer or hardware available within the room. In the context of business the scenario is also similar for any professional who has to move data between locations; examples such as presentations, workshops or collaborative projects are a few of the possible scenarios or conceptualizations within this genre or field. The nuances and similarities are congruent for the two professional realms with the possibilities potentially endless for both.

The drive, or memory is important, as is the platform, but it is the utilization of a viewing or projection device that

allows for a truly multimedia experience. Not all of the links of a curriculum or lesson (or business utility) will be designed or created for public viewing but some, such as examples, notes, questions, etc. can easily be created, stored and then later projected for an audience when or as needed. The platforms for these public files can be Word® document for note taking, PowerPoint® for presentations and/or Excel® for charts, databases and graphs though other utilities may surely be used. The viewing device can be of several types though digital projectors are possibly the best coupling for this digital platform. Far more common, and increasingly so, digital projectors have the portability, power and viewing range to be integrated in a plurality of venues and uses. Schools, educational institutions and districts have purchased these devices in large quantities; either by 'hard' fixing or permanently attaching them into classrooms or incorporating them as portable media labs to be checked out when needed. As a business traveler, or an academic travelling for presentations, digital projectors are portable (the newer models) and can be carried alongside a laptop and, of course, any litany of peripheral memory devices.

### **Enacting and Utilizing the Platform**

Implementing the media design is relatively easy, as previously stated, though there are some potential pitfalls in its incorporation. As belies a construct as simple as this, the building and implementation is relatively safe and stable as it is somewhat difficult to mess up. The nuances are in the little details, primarily in the proper creation of the platform, including both the storage criteria and the template. Initial planning needs to accommodate for both the user and for the platform's primary function which will allow for the design to be of real benefit or use. Simply put, one needs to work out the design first, constructed to the individual's way of thinking and/or work habits for it to work at its best. Differing functionalities and conceptual formats were tested by anecdotal trial and error as they need to be dictated, eventually (over a course of years) involving a plethora of differing arrays and models tried with varying degrees of success.

Before implementing or starting, the first step is in

determining where the program will be stored. The conceptualization and primary strength of the platform is based on its mobility but it should also remain flexible and non-static, retaining the ability to be changed, added, and/or modified according to the user's wishes or needs. This design singles out one time memory applications such as compact disks (CDs) which can be burned only once, and re-writeables (CD-RW) which do have the potentiality of being changed but experience several drawbacks, especially for the novice user. Re-writeables are designed to be changed, or re-burned up to 1000 times before failure, but this number or level of malleability is not always sustainable and readability errors can be common (Computer Hope, 2008). The technology depends upon the optic reader (disk drive) of the computer which, due to reflectivity issues and format compatibilities, does not compare to the ease of implementation or the mobility of a USB integrated peripheral (Microsoft, 2008). The before mentioned flash drive is, at this time, the best memory device on the market to meet the protocols for this media package due to its storage potential, portability, accessibility and overall compatibility through its USB interface (Cooper, Diefenbaugh & Kardach, 2008). It is the recommended memory hardware to meet the widest and disparate range of potential users of this particular media platform.

The memory device needs to contain the complete file, including the master template and all peripheral documents within a singular, primary folder. When creating, the folder needs to be labelled; in education this would normally be the class or subject though this is by no means inclusive to this criterion or possibility. The priority is in ease and functionality so the user should label the folder as appropriate to him or her, and its function as to limit restrictions or difficulties in later retrieving it. The reason for including all documents in a singular location is two fold; first being the central location of all the data makes the media platform an easy to access repository of the files. The template becomes an index upon itself, helping the user remember where a document, presentation or possibly an important handout can be

found. For anyone who has taught or presented, recollection of a specific object or document can be attributed to the specifics of that lesson or event. Basically the user may have a better time finding a specific document when he or she knows when it was actually used; a corollary benefit to the sequential design of the template.

The second reason is for functionality of the links. The first labeled folder will be the primary depository of the curriculum, but secondary folders created within will be necessary to help consolidate documents by type or function. Links from the template should access pages from the secondary folders, or the internet if this is being applied. By keeping the links active to files only within the primary folder reduces the possibility of broken links or connections. The platform's primary function (or strength) is in its mobility, in using a peripheral memory device that can be transposed from one computer to another. If the link is to a document within the actual computer's memory, this link will be inactive when used in a differing location or separate computer. To avoid this mistake it is best to keep all documents located within a singular, distinct folder to avoid mishaps and/or confusion, many of which tend to occur at the most inopportune moments. As an educator or professional, the loss of an important presentation or corollary document can be the difference between a successful lesson and presentation of one that is not. It is important to remember that a link to another document is in essence nothing more than an address from which the computer can locate and retrieve the item being sought; if the document is in another part of the computer, or memory device, the possibility of the address being changed, hence the difficulty to locating it is increased. It is not uncommon for links to become broken; by consolidating everything in a central location this reduces this potentiality as well as helping the user find the document if such a breakage does occur. Another beneficiary of centralizing into a specific location is when copying or moving the entire curriculum (folder) to another device, as in doing so the template and all corollary links should remain active as the addresses will technically remain the same. USB flash

drives can fail sometimes and it is wise to back-up such important files; keeping everything consolidated will make this process easier (hopefully) and potentially painless.

Once the folder arrangements have been created it is necessary to design and implement the primary page or template. This is a flexible module and, as stated earlier, designed to the user's needs and perspectives, basically his or her way of thinking and/or doing things. If the design is for a curriculum that moves in a linear, consistent direction, columnar templates that flow downward can be an extremely effective format or style. Columns of three or four have been successfully implemented though more or less can surely be created. In education certain criteria such as units, possibly defined in terms of chapters, sections, etc. are commonly used as well as objectives or learning goals, lessons, and/or work or supplemental activities (see Figure 1). Terminology or the semantics utilized will depend upon the context, level, or situation of the learning environment in which the educator operates.

If objectives or learning outcomes (or goals) are not specified or needed, a three column format is surely acceptable. It should be noted that the terminology of column being referenced in this article is not necessarily correct as it is actually a table that has, and should be implemented. The table is designed to represent a columnar look but due to formatting issues it is easier to incorporate in the way intended for the media template. Traditional columns will automatically move data from left to right as they are completed or filled, finishing the entire page before moving to the next. For this template the users want the freedom to move continuously downward as he/she builds the documents, not necessarily dependant on filling each section as the users move. To accomplish this task the user can create a simple table with the number of columns desired and two rows, the top row utilized solely for the titling of the column. As either column is filled, the table (second row) will automatically extend or move downward. This action is not dependent on filling each section which allows the user more flexibility in creation and design. It should also be noted that the

pages in Word® can be set as one continuous document by clicking (depending upon the version the users may have to double click) on the empty space between the pages. The pages, after doing this action, will be re-formatted into one continuous document which can be scrolled down without any breaks or interruptions. This is also an effective utilization for the projection of notes, giving students an uninterrupted chain or sequence of information which can be directed by the instructor as predicated by the timing and instruction of the lesson.

The last remaining concept or tool of the design is in the incorporation of the links, or connections from the master template to the document being requested. In creating the links, the previously discussed folder arrangements will now come in handy as the relevant document will be easier to find. Once the user has created the document he or she will need to make the reference to it on the master template. This action, of course can be reversed by creating the reference and then the document, once again based on user preference and style. The document, albeit a PowerPoint®, handout, activity, etc, will need to be saved in one of the appropriate secondary folders. Once the file is saved the reference can be created in the corresponding space and/or column in the master template. The titles for the two do not need to be same and will not be necessary for the linkages to function properly.

The creation of the link is relatively simple to achieve. First, the template reference needs to be highlighted and then we can click on the hyperlink tab or icon within the top frame of the page. The hyperlink icon will differ in placement according to the generation of Word® being utilized (and if other word processing platforms are being used) but it will be there, it just may take a little searching to find it. Once located, clicking on the tab will present a new window or 'pop up' on the screen. The window will be titled 'insert hyperlink' and should already be opened to the file in which the master template resides, another corollary benefit to consolidating all the files in a central location. To find the newly created document in the appropriate secondary file, one has to click on the arrow to the right of the drop down box labeled 'look in', and

scroll through the options. The choices should direct us to the appropriate folder which should be directly underneath the primary folder in sequential order. These folders will probably be slightly indented in reference to their location within the primary folder. Once the exact folder is clicked the inserted files will appear in the window below the 'drop down box'. The user can now click on the exact file, which will then become highlighted, and then can click the 'ok' icon. Once the link is established it is recommended to close the file and try the link from the template to see if it is working correctly. It should be noted that these directions are for Microsoft Word®, other word processing utilities will require different steps in creating links, though it is assumed most, if not all will have this application. Once the connection is established the template and all the corresponding folders are ready to be built into a functioning and flexible interactive, multimedia platform.

## Conclusion

The media package is designed to be used by a wide range of educational professionals though its potential certainly extends beyond this profession. The platform is essentially nothing more than a singular storage location within a portable memory device that can be accessed through a primary document or template. By using links, or internal addresses, the user can safely store documents in an order as befits his or her profession or objectives and to do so in a portable manner that is easy to use and compatible to a majority of computers on the market today. This gives the professional the ability to take their entire work to different venues with little preparation or need for correlating hardware or equipment. Using this design with a USB compatible memory device increases portability and user ease, widening the potential audience who can effectively utilize the platform while still retaining the power and flexibility to be effective. By using a viewing device the package is complete and becomes an encompassing tool for educators and/or other professionals in bringing large volumes of data to a myriad of locations in an accessible and powerful way.

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