

Multimedia 12

Guide

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Multimedia 12

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Multimedia 12

DRAFT
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Contents

Introduction	Background.....
	Rationale for Multimedia 12.....
	The Nature of Multimedia 12.....
	Course Designation.....
Course Design and Components	Features of Multimedia 12.
	The Four-Column Spread.....
Outcomes	Essential Graduation Learnings and Multimedia 12.
	Multimedia 12 Unifying Concepts.
	Specific Curriculum Outcomes.....
	Module 1: Creating and Manipulating Images.
	Module 2: Creating and Manipulating Sequenced Images..... 1
	Module 3: Sound. 1
	Module 4: Collaborative Project and Personal Portfolio. 1
Contexts for Learning and Teaching	Principles of Learning.
	Learning Styles and Needs.....
	Meeting the Needs of All Students.
	The Role of Technology.
	The Multimedia 12 Learning Environment.....
Assessing and Evaluating Student Learning	Effective Assessment and Evaluation Practices.....
	Using a Variety of Assessment Strategies.
Appendices	Appendix A: Resources.
	Appendix B: Group Work and Team Building PENDING.
	Appendix C: Sample Learning Activities PENDING.
	Appendix D: Module 4 Project Example PENDING.....
	Appendix E: Rubrics PENDING.
	Appendix F: Glossary of Terms.....
	Appendix G:Internet links PENDING.....
	Appendix H: Moral, Ethical, and Legal Issues.....

Introduction

Background

Since the earliest cave paintings, 10,000-15,000 years ago, the human need for expression and conveyance of ideas has been a prevalent part of our history and the development of our social awareness. We need to tell our stories. In a culture immersed in media, students need a foundation to analyze the barrage of content to which they find themselves exposed. Multimedia 12 is designed to give students opportunities to explore multimedia products and to design their own multimedia works. Through this process students will begin to understand the aesthetic, cultural, and ethical implications of sharing ideas and beliefs from the perspectives of both creator and consumer.

Through the processes involved with the construction of multimedia projects students learn to create, manipulate and critically reflect upon multi-media projects, acting as members of a collaborative culture. Students also develop an understanding of the range of forms of expression available and of how these forms can capture the significance of their experiences, ideas, and opinions.

As the role of multimedia in communications and information technology grows, the demand for thoughtful, skilled individuals expands. Career opportunities in advertising and marketing, film, music, web content and development, video, and television production are expanding.

Multimedia 12 provides students with opportunities to investigate the range of careers and employment opportunities that exist in the expanding arts, communications, and business sectors, develop some basic skills, and explore the range of roles and workplaces where the creating of multimedia products is a core activity.

Rationale for Multimedia 12

Multimedia is not only an area of study in its own right but an important supporting component of many other disciplines. The dramatic growth of information/communications technology and its enormous impact on virtually every field of study is well-documented. The pervasiveness of computing and information/communications technology creates a responsibility to offer an in-depth introduction to the discipline.

There is growing student interest in high school technology courses due to the proliferation of computers throughout society. Students interested in pursuing studies or careers in practically any discipline recognize that their understanding of information/communications technology will play an increasingly important role in their success. Multimedia 12 introduces students to analysis, design, and problem solving skills that will greatly enhance their ability to use a wide variety

Careers in Multimedia

of technologies available today, as well as to adapt to the constant innovations in technology they will encounter throughout their careers.

The study of multimedia can lead to a broad range of occupations within arts and communications disciplines, and can also be applied across a broad range of other disciplines and occupations, including:

- animator
- CD-ROM developer
- communications design
- games designer
- graphic designer
- graphic artist
- instructional designer
- interface designer
- multimedia/graphic design
- music/sound producer
- project manager
- recording technologist
- software developer
- sound designer
- technical writer
- video editor
- virtual reality designer
- web master
- Website designer or developer

LifeWork Portfolio Development

Many post secondary institutions expect students seeking to pursue studies in new media to provide an entrance portfolio and to offer additional support to their applications through demonstration of both skills and attitudes aligned with an occupational profile. Indicators may include drawing tests, computer functionality tests, and personality inventories, as well as interviews. A typical entrance portfolio will include a specified number of copies of artwork, digital work, and an essay or rationale statement explaining the student's interest in the discipline. Multimedia 12 provides opportunities for students to collect and articulate their best work as they continue to build a LifeWork portfolio.

Portfolio development helps students to demonstrate their skills and commitment to the study, and helps institutions to meet the students at their current level of skill and interest. The components of the portfolio or pre-admission testing are often dependent on the approach to the subject, whether integrated into a fine arts program, a technology program, or as a commercial and vocational study. Students will have opportunities to examine admission requirements and the placement

of the program within the institution's overall academic offerings to determine the fit with their own career goals.

The Nature of Multimedia 12

Multimedia 12 provides a context in which students may

- become skilled, critical users of information and communication technology (ICT)
- demonstrate an understanding of aesthetic/artistic implications of multimedia products be aware of and respect ethical/social and legal implications of multimedia products
- apply the elements and principles of art and design to create multimedia products
- construct multimedia products which efficiently and effectively communicate ideas and concepts
- become contributing, reflective members of a collaborative culture

Multimedia 12 consists of four modules:

Module 1: Creating and Manipulating Images

Module 2: Creating and Manipulating Sequenced Images

Module 3: Sound

Module 4: Collaborative Project and Personal Portfolio

Course Designation

Multimedia 12 may be offered as an elective arts education course or as a technology-related course. Multimedia 12 is an eligible credit to meet the technology graduation requirement. However, Multimedia 12 does not satisfy the compulsory fine arts requirement for graduation.

Students who complete two modules will receive a half credit, while all four modules must be completed to receive a full credit. Course codes for Multimedia 12 are

327057 Multimedia 12
327058 Multimedia 12A
327059 Multimedia 12B

Modules may be organized in the following ways:

Option 1		Option 2	
1		1	4
2		2	
3		3	
4		* Option 2 is recommended	

Course Design and Components

Features of Multimedia 12

Multimedia 12 is characterized by the following features:

- an emphasis on integrating, applying, and reinforcing the knowledge, skills, and attitudes developed in other courses
- a connection to the Essential Graduation Learnings
- a refining of career-planning skills to explore a wide range of pathways from school
- a relationship to the community and workplace with a focus on using real community and workplace problems and situations as practical contexts for the application of knowledge and skills and for further learning
- hands-on, project based learning experiences
- development of personal and interpersonal skills required for personal and career success
- use of technology as an integral part of the course

The Four- Column Spread

The curriculum for this course has been organized into four columns for several reasons:

- The organization illustrates how learning experiences flow from the outcomes.
- The relationship between the outcomes and assessment strategies is immediately apparent.
- Related and interrelated outcomes can be grouped together.
- The range of strategies for learning and teaching associated with specific outcomes can be scanned easily.
- The organization provides multiple ways of reading the document or of searching for specific information.

An example of the two-page, four-column spread appears on the next page.

Column One: Outcomes

This column provides specific curriculum outcomes for the general curriculum outcome that appears across the top of the page. While the outcomes may be clustered, they are not necessarily sequential.

Column Two: Suggestions for Learning and Teaching

This column offers a range of strategies from which teachers and students may choose. Suggested learning experiences can be used in various combinations to help students achieve an outcome or outcomes. The suggested strategies may also provide a springboard for teachers to choose other strategies that would be effective for their students. It is not necessary to use all the suggestions that are included, nor is it necessary for all students to be involved in the same learning experience.

Column Three: Suggestions for Assessment

This column provides suggestions for assessment of achievement of the outcomes in Column One and are often linked to the Suggestions for Learning and Teaching column. The suggestions are only samples; for more information, read the section Assessing and Evaluating Student Learning and see Appendix G for sample assessment tools.

Column Four: Notes and Resources

This column contains a variety of information related to the items in the other columns, including suggested resources, elaborations on strategies, successes, cautions, and definitions.

Module 2: Fundamentals of Programming			
Students will be expected to identify problems, select effective strategies, and plan solutions.			
Outcomes 2.1 demonstrate an understanding of the syntax and features of a programming language 2.2 identify and frame problems 2.3 demonstrate an understanding of how data structures are used to solve problems 2.4 use appropriate methods and terms to develop a plan to solve a problem 2.5 apply and plan to solve a problem using a programming language 2.6 demonstrate an understanding of the effectiveness of other people's programs and documentation	Strategies for Learning and Teaching 2.1 Read and understand a problem description, purpose, and goals. Decompose a problem into classes, define relationships and responsibilities of those classes. 2.2 declare constant, variables, methods, classes and parameters understand and modify existing code 2.3 analyse and express problems in mathematical terms and use the information to create data structures (account for all objects required in a program) 2.4 role play problems to focus on conditions, relationships, classes, variables and objects 2.5 examine data types appropriate to solve specific problems 2.6 model problems using flowcharts, unified modelling language, pseudocode or object diagrams design, write, and test rudimentary object-oriented programs 2.7 provide samples of effective and ineffective programs 2.8 provide students with problems where one student writes the pseudocode without having seen the original problem 2.9 stress the importance of good program design and following coding conventions (see Appendix D for Resources, Coding Conventions) 2.10 introduce a video game project, which students will code together as a class, to apply programming fundamentals and introduce syntax 2.11 provide students with tutorials, handouts, videos and directions to Web resources which discuss fundamental programming concepts and explain language syntax 2.12 assign students to research and teach specific concepts and present solutions	Suggestions for Assessment 2.1 create and document many small programs following good coding conventions 2.2 work in groups and individually to define and solve problems 2.3 read a problem and write the problem in their own words 2.4 peer teach 2.5 finish partially completed projects 2.6 develop a portfolio of assignments, tests, and projects to monitor and reflect on their own progress 2.7 Use rubrics to assess student learning and participation 2.8 Provide students with skill-based checklists 2.9 Create series of short quizzes which students score themselves to prepare for summative quizzes and tests 2.10 create partially completed projects which students can debug and complete 2.11 provide code walkthroughs for students to debug 2.12 provide small, sequential laboratory assignments to prepare students for weekly quizzes and to cumulatively work toward a larger project	Suggested Resources Problem Solving and Programming Concepts Series Problem Solving 0-1-10-0101-4 Java, Java, Java 3rd Edition Prentice Hall 2003 0-13-033370-0 See appendix: H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ
Computer Programming 12A			Computer Programming 12A

Essential Graduation Learnings and Multimedia12

The Atlantic provinces worked together to identify the abilities and areas of knowledge that they considered essential for students graduating from high school. These are referred to as Essential Graduation Learnings. Details may be found in the document *Public School Programs*.

Some examples of learning in Multimedia 12 which helps students move toward attainment of the essential graduation learnings are given below.

Aesthetic Expression

Graduates will be able to respond with critical awareness to various forms of the arts and be able to express themselves through the arts.

Students will be expected to

- demonstrate an understanding of the cultural, historical, and emotional impact of other people's images by examining their form and content (1.2)
- apply skills, principles, techniques, and processes of art and design to communicate ideas and concepts to an identified audience for a specified purpose (4.1)

Citizenship

Graduates will be able to assess social, cultural, economic and environmental interdependence in a local and global context.

Students will be expected to

- ▶ demonstrate an understanding of the cultural, historical, and emotional impact of other people's multimedia products by examining their form and content, audience and purpose (4.2)

Communication

Graduates will be able to use the listening, viewing, speaking, reading, and writing modes of language(s) as well as mathematical and scientific concepts and symbols to think, learn, and communicate effectively.

Students will be expected to

- ▶ demonstrate an awareness of the procedures involved in the production of images in a range of digital and electronic media (1.3)
- ▶ constructed sequenced images which communicate ideas and concepts (2.5)
- ▶ construct and manipulate sound products which communicate ideas and concepts (3.6)

Personal Development

Graduates will be able to continue to learn and to pursue an active, healthy lifestyle.

Students will be expected to

- ▶ independently select, organize and refine a range of multimedia

products that illustrate learning throughout the course to create a multimedia-authored personal portfolio (4.4)

- ▶ explore various educational and career paths in multimedia-related fields (4.5)
- ▶ demonstrate the collaborative skills and behaviours required to work with others (4.6)
- ▶ reflect upon and assess their own learning and the learning of others (4.7)

Problem Solving

Graduates will be able to use the strategies and processes needed to solve a wide variety of problems, including those requiring language, mathematical, and scientific concepts.

Students will be expected to

- ▶ apply principles of art and design to create digital and electronic images (1.4)
- ▶ demonstrate an awareness of the procedures involved in the production of sequenced images in a range of digital and electronic media (2.3)

Technological Competence

Graduates will be able to use a variety of technologies, demonstrate an understanding of technological applications, and apply appropriate technologies for solving problems.

Students will be expected to

- apply techniques and procedures needed to manipulate images (including text) in a range of media, including digital and electronic media (1.1)
- collaboratively create a customized multimedia authored project using software program(s) and external sources (4.3)

Multimedia 12 Unifying Concepts

Students will be expected to

- create, manipulate, and critically reflect on digital and electronic images suitable for multimedia products
- create, manipulate, and critically reflect on digital and electronic time-based images suitable for multimedia products
- create, manipulate, and critically reflect on sound products suitable for multimedia products
- create, manipulate, and critically reflect on multimedia products as reflective members of a collaborative culture

Specific Curriculum Outcomes

Module 1: Creating and Manipulating Images

Students will be expected to

- apply techniques and procedures needed to manipulate images (including text) in a range of media, including digital and electronic media (1.1)
- demonstrate an understanding of the cultural, historical, and emotional impact of other people's images by examining their form and content (1.2)
- demonstrate an awareness of the procedures involved in the production of images in a range of digital and electronic media (1.3)
- apply principles of art and design to create digital and electronic images (1.4)
- construct digital and electronic images which communicate ideas and concepts (1.5)

Module 2: Creating and Manipulating Motion Graphics

Students will be expected to

- apply techniques and procedures needed to create motion graphics (2.1)
- demonstrate an understanding of the cultural, historical, and emotional impact of other people's motion graphics by examining their form and content (2.2)
- demonstrate an awareness of the procedures involved in the production of motion graphics in a range of digital and electronic media (2.3)
- apply principles of art and design to create motion graphics (2.4)
- constructed motion graphics which communicate ideas and concepts (2.5)

Module 3: Sound

Students will be expected to

- create and manipulate sound products from a range of sources, including music, narration, and effects (3.1)
- demonstrate an understanding of the cultural, historical, and emotional impact of other people's sound products by examining their form and content; and relationship or potential relationship to other multimedia elements (3.2)
- demonstrate an awareness of the procedures involved in the production and application of sound products in a range of media (3.4)
- apply principles of art and design to create sound products (3.5)
- construct and manipulate sound products which communicate ideas and concepts (3.6)

Module 4: Collaborative

Students will be expected to

- Project and Personal Portfolio**
- apply skills, principles, techniques, and processes of art and design to communicate ideas and concepts to an identified audience for an specified purpose (4.1)
 - demonstrate an understanding of the cultural, historical, and emotional impact of other people's multimedia products by examining their form and content, audience and purpose (4.2)
 - collaboratively create a customized multimedia authored project using software program(s) and external sources (4.3)
 - independently select, organize and refine a range of multimedia products that illustrate learning throughout the course to create a multimedia-authored personal portfolio (4.4)
 - explore various educational and career paths in multimedia-related fields (4.5)

Module 1: Creating and Manipulating Images

Module 1: Creating and Manipulating Images

Outcomes

By the end of this course, students will be expected to

1.1 apply techniques and procedures needed to manipulate images (including text) in a range of media, including digital and electronic media

1.2 demonstrate an understanding of the cultural, historical, and emotional impact of other people's images by examining their form and content

1.3 demonstrate an awareness of the procedures involved in the production of images in a range of digital and electronic media

1.4 apply principles of art and design to create digital and electronic images

1.5 construct digital and electronic images which communicate ideas and concepts

Suggestions for Learning and Teaching

Students can

- explore a range of popular media, for example, graffiti, tags, signatures, movies trailers (for example, at quicktime.com) and develop a matrix to organize the common elements in purposes, themes, and techniques
- Review principles of art and design, and develop a gallery of samples from popular media to illustrate them (see Appendix: Principles of Art and Design)
- Examine samples of a ranger of texts formatted for specific purposes using specific effects and develop a graphic report on their findings
- Change the look of a passage of text to create a variety of effects for a variety of purposes
- Create treatments of their name which communicated how you see yourself, how you would like to be seen, and how you think others see you; share the results with a group and discuss how the effects were created
- work individually or in groups to create an image or sequence of images that communicate their view(s) on a topic they have chosen, negotiated or been assigned.
- collect, organize, and display a variety of representations of a universal theme, for example, love, hate, fear, beauty, death, birth, greed, power, loneliness
- collect, organize, and display a variety of representations of a social issues: crime, racism, charity
- collect, organize, and display a variety of representations of a cultural issues: marijuana use, alcoholism, gay marriage, abortion, euthanasia
- collect, organize, and display a variety of representations of economic issues: poverty, genetically modified foods, generic drugs
- collect, organize, and display a variety of representations of school or community problems: bullying, sex education, rules, gossip
- collect, organize, and display a variety of representations of people and places

deconstruct ads, then create one using similar techniques
create storyboard for selected television advertisements
create a storyboard for a book promotion, school event, rant, local attraction

Module 1: Creating and Manipulating Images

Suggestions for Assessment

Students can

- bring magazine/newspaper/brochure samples which they can use to examine symbols, graphics and photos.
- sort the images by audience (gender, age, lifestyle, income), by purpose (social, commercial, moral, political) and sort the images on emotional impact (i.e., admiration, pleasure, fear, anger, passion, envy, ambition, approval and affiliation).
- work in a group to deconstruct the images by identifying impact of colour, light, motion, balance, composition (see Appendix), impact of setting and properties, characters, exaggerations, distortions, alterations, and text elements.
- develop a slide show or other documentary to illustrate their plan for a multimedia project from proposal, through draft/plan/storyboard, product, presentation, to critique/feedback/reflection
- See Appendix (sample unit)
-

Possible topics:

- archaeology project
- design a planet
- what do you worry about?
- mythology, real, invented, contemporary
- neighbourhood improvement project
- alternative history (what if WW II had ended differently?)

Suggested Resources

see Appendix—Deconstructing an image, Video Quest, pp.103 Count

digital camera

scanner

photo manipulation software

draw programs

photocopier

Module 2: Creating and Manipulating Motion Graphics

Module 2: Creating and Manipulating Timed Images

Outcomes

By the end of this course, students should be able to

2.1 apply techniques and procedures needed to create motion graphics

2.2 demonstrate an understanding of the cultural, historical, and emotional impact of other people's motion graphics by examining their form and content

2.3 demonstrate an awareness of the procedures involved in the production of motion graphics in a range of digital and electronic media

2.4 apply principles of art and design to create motion graphics

2.5 constructed motion graphics which communicate ideas and concepts

Suggestions for Learning and Teaching

Students should be able to

- ▶ Different types of animation activity—concept map (Leslie).
- ▶ Look at the nuts and bolts of animation: flip books, zoetrope, frame by frame (Ch. 6 Count).
- ▶ Discuss time line, layers
- ▶ Tutorial on creating animations—basic skills.
- ▶ Have students critique a video ad or animation using the principles of art and design,
- ▶ Students can: (Ch. 2 Count)
 - critique the time based images according to audience (gender, age, lifestyle, income)
 - critique the time based images on purpose (social, commercial, moral, political)
- ▶ Evaluate the time based images on emotional impact (i.e., pleasure, fear, anger, passion, envy, ambition, approval, affiliation)
- ▶ Students can work individually or in groups to create a sequence of images that communicate their story or message that they have chosen, negotiated or been assigned.

Module 2: Creating and Manipulating Motion Graphics

Suggestions for Assessment

Students can

- Students work in groups to deconstruct the animation/video by identifying:
 - impact of colour, light, motion, balance, composition (See Appendix)
 - impact of setting and properties
 - impact of characters
 - impact of exaggerations, distortions, alterations
 - impact of text elements
 - impact of the combination of elements that go together to create time and space (i.e., still of a daisy vs animation/lifestyle of a daisy)
- ▶ explain how the viewer is controlled through transitions and other elements of filming
- ▶ examine a range of purpose for which animation is used
- ▶ Use and manipulation of time line.
- ▶ Students will identify an audience, apply the principles of art and design, show continuity, manipulate time, viewers perception, and lead the audience through a story that exhibits a time-line.
- ▶ Process: proposal, draft/plan/storyboard (Ch. 5 Count), product, presentation, critique/feedback/reflection.

Suggested Resources

MUST HAVE

animation/video editing software

COULD BE OF USE

scanner

photocopier

digital camera

digital DVD

flip books

zoetrope

Module 3: Sound

Module 3: Sound

Outcomes

By the end of this course, students will be expected to

- 3.1 demonstrate an understanding the elements of sound, including tone, pitch, volume, shape, and harmonics
- 3.2 create and manipulate sound products from a range of sources, including music, narration and effects
- 3.3 demonstrate an understanding of the cultural, historical, and emotional impact of other people's sound products
- 3.4 by examining the form and content; and relationship or potential relationship of sound products to other multimedia elements
- 3.5 demonstrate an awareness of the procedures involved in the production and application of sound products in a range of media
- 3.6 apply principles of art and design to create sound products
- 3.7 construct and manipulate sound products which communicate ideas and concepts

Suggestions for Learning and Teaching

Students can

- Students can examine a range of sound events, including narration, instrumental and vocal music (from a variety of cultural and historical contexts), rhythms, artificial and natural sound effects and sound effects.
- Deconstruct sound events to identify the elements, and the impact.
- Select, manipulate or create sound events for specific purposes (i.e., to create a mood, to reinforce, link, or control other multimedia elements.
- View wave characteristics of sound events using a digital sound editor.

Module 3: Sound

Suggestions for Assessment

Students can

- Students can develop a concept for a sound project.
- Develop the ideas/emotions to be communicated.
- plan
- create
- present
- Teachers can provide examples of sound in media from the range of historical contexts and a variety of cultural contexts:
 - ask students to describe the impact of sound on the media products
 - ask students to derive the principles of form and content used by the creator in each case.
- tutorials, assignments, field trips, and interviews to explore techniques, technologies, applications and devices used in sound production.

Suggested Resources

Module 4: Collaborative Project and Personal Portfolio

Module 4: Collaborative Project and Personal Portfolio

Outcomes

By the end of this course, students will be expected to

Students will be expected to create, manipulate, and critically reflect on multimedia products

Students will become controlling, reflective members of a collaborative culture

4.1 apply skills, principles, techniques, and processes of art and design to communicate ideas and concepts to an identified audience for a specified purpose

4.2 demonstrate an understanding of the cultural, historical, and emotional impact of other people's multimedia products by examining their form and content, audience and purpose

4.3 collaboratively create a customized multimedia authored project using software program(s) and external sources

4.4 independently select, organize and refine a range of multimedia products that illustrate learning throughout the course to create a multimedia-authored personal portfolio

4.5 explore various educational and career paths in multimedia-related fields

Suggestions for Learning and Teaching

Students can

- Students should be assigned to one or more teams and facilitated to establish their Project Parameters.
- Exercise is intended to provide a context for collaboration through project-based exercise as well as the demonstration of the key outcomes from the foregoing modules.
- Project selection: provide a list of headings/topics that are authentic and contemporary.
- Promote brainstorming exercise of ideas for other possible topics of interest.
- Support consensus-making on the selection for the team.
- Negotiate and sign-off on project proposal.
- Determine project scope/budget.
- Identify and obtain resources.
- Discuss time management.
- Estimate total hours of effort
- Assessment: individual and group marking will be used in the project.
- demonstrate the collaborative skills and behaviours required to work with others
- reflect upon and assess their own learning and the learning of others

Module 4: Collaborative Project and Personal Portfolio

Suggestions for Assessment

Students can

- Project process:
 - select project
 - determine project scope/budget
 - review audience, purpose and message
 - determine appropriate media
 - discuss match of media/message/audience
 - plan a media presentation
 - assign and research roles
 - research work of other professionals in similar work
 - implement action plan
 - monitor project
- deliverables
- project presentation

Suggested Resources

proposal template

deliverables template

schedule template

critique rubrics (peer, product)

exemplars of good design/bad design

URLs

bibliography

suggested project topics

FAQs/fact sheets:

consensus management

conflict resolution

time management

brainstorming rules/exercises

group process rules

Contexts for Learning and Teaching

Principles of Learning

The public school program is based on principles of learning that teachers and administrators should use as the basis of the experiences they plan for their students. These principles include the following:

1. *Learning is a process of actively constructing knowledge.*

Therefore, teachers and administrators have a responsibility to

- create environments and plan experiences that foster inquiry, questioning, predicting, exploring, collecting, educational play, and communicating
- engage learners in experiences that encourage their personal construction of knowledge, for example, hands-on science and math, drama, creative movement, artistic representation, and writing and talking learning activities
- provide learners with experiences that actively involve them and are personally meaningful

2. *Students construct knowledge and make it meaningful in terms of their prior knowledge and experiences.*

Therefore, teachers and administrators have a responsibility to

- find out what students already know and can do
- create learning environments and plan experiences that build on learners' prior knowledge
- ensure that learners are able to see themselves reflected in the learning materials used in the school
- recognize, value, and use the great diversity of experiences and information students bring to school
- provide learning opportunities that respect and support students' racial, cultural, and social identities
- ensure that students are invited or challenged to build on prior knowledge, integrating new understandings with existing understandings

3. *Learning is enhanced when it takes place in a social and collaborative environment.*

Therefore, teachers and administrators have a responsibility to

- ensure that talk, group work, and collaborative ventures are central to class activities
- see that learners have frequent opportunities to learn from and with others
- structure opportunities for learners to engage in diverse social interactions with peers and adults

- ▶ help students to see themselves as members of a community of learners
 - ▶
4. *Students need to continue to view learning as an integrated whole.*

Therefore, teachers and administrators have a responsibility to

- plan opportunities to help students make connections across the curriculum and with the world outside and structure activities that require students to reflect on those connections
- invite students to apply strategies from across the curriculum to solve problems in real situations

5. *Learners must see themselves as capable and successful.*

Therefore, teachers and administrators have a responsibility to

- provide activities, resources, and challenges that are developmentally appropriate to the learner
- communicate high expectations for achievement to all students
- encourage risk taking in learning
- ensure that all students experience genuine success on a regular basis
- value experimentation and treat approximation as signs of growth
- provide frequent opportunities for students to reflect on and describe what they know and can do
- provide learning experiences and resources that reflect the diversity of the local and global community
- provide learning opportunities that develop self-esteem

6. *Learners have different ways of knowing and representing knowledge.*

Therefore, teachers and administrators have a responsibility to

- recognize each learner's preferred ways of constructing meaning and provide opportunities for exploring alternative ways
- plan a wide variety of open-ended experiences and assessment strategies
- recognize, acknowledge, and build on students' diverse ways of knowing and representing their knowledge
- structure frequent opportunities for students to use various art forms—music, drama, visual arts, dance, movement, crafts—as a means of exploring, formulating, and expressing ideas

7. Reflection is an integral part of learning.

Therefore, teachers and administrators have a responsibility to

- challenge their beliefs and practices based on continuous reflection
 - reflect on their own learning processes and experiences
 - encourage students to reflect on their learning processes and experiences
 - encourage students to acknowledge and articulate their learning
 - help students use their reflections to understand themselves as learners, make connections with other learning, and proceed with learning

Learning Styles and Needs

Learners have many ways of learning, knowing, understanding, and creating meaning. Research into links between learning styles and preferences and the physiology and function of the brain has provided educators with a number of helpful concepts of and models for learning. Howard Gardner, for example, identifies eight broad frames of mind or intelligences: linguistic, logical/mathematical, visual/spatial, body/kinesthetic, musical, interpersonal, intrapersonal, and naturalistic. Gardner believes that each learner has a unique combination of strengths and weaknesses in these eight areas, but that the intelligence can be more fully developed through diverse learning experiences. Other researchers and education psychologists use different models to describe and organize learning preferences.

Students' ability to learn is also influenced by individual preferences and needs within a range of environmental factors, including light, temperature, sound levels, availability of food and water, proximity to others, opportunities to move around, and time of day.

How students receive and process information and the ways they interact with peers and their environment in specific contexts are both indicators and shapers of their preferred learning styles. Most learners have a preferred learning style, depending on the situation and the type and form of information the student is dealing with, just as most teachers have a preferred teaching style, depending on the context. By reflecting on their own styles and preferences as learners and as teachers in various contexts, teachers can

- build on their own teaching-style strengths
- develop awareness of and expertise in a number of learning and teaching styles and preferences
- identify and allow for differences in student learning styles and preferences

- identify and allow for the needs of students for whom the range of ways of learning is limited organize learning experiences to accommodate the range of ways in which students learn

Learning experiences and resources that engage students' multiple ways of understanding allow them to become aware of and reflect on their learning processes and preferences. To enhance their opportunities for success, students need

- a variety of learning experiences to accommodate their diverse learning styles and preferences
- opportunities to reflect on their preferences and the preferences of others to understand how they learn best and how others learn differently
- opportunities to explore, apply, and experiment with learning styles other than those they prefer, in learning contexts that encourage risk taking
- opportunities to return to preferred learning styles at critical stages in their learning
- opportunities to reflect on other factors that affect their learning, for example, environmental, emotional, sociological, cultural, and physical factors
- a flexible time line within which to complete their work

Meeting the Needs of All Students

Learners require inclusive classrooms, where a wide variety of learning experiences ensure that all students have equitable opportunities to reach their potential.

In designing learning experiences, teachers must accommodate the learning needs, preferences, and strengths of individuals, and consider the abilities, experiences, interests, and values which they bring to the classroom. In recognizing and valuing the diversity of students, teachers should consider ways to

- create a climate and design learning experiences to affirm the dignity and worth of all learners in the classroom community
- consider the social and economic situations of all learners
- acknowledge racial and cultural uniqueness
- model the use of inclusive language, attitudes, and actions supportive of all learners
- adapt classroom organization, teaching strategies, assessment practices, time, and learning resources to address learners' needs and build on their strengths
- provide opportunities for learners to work in a variety of contexts, including mixed-ability groupings

- identify and apply strategies and resources that respond to the range of students' learning styles and preferences
- build on students' individual levels of knowledge, skills, and attitudes
- use students' strengths and abilities to motivate and support their learning
- provide opportunities for students to make choices that will broaden their access to a range of learning experiences
- acknowledge the accomplishment of learning tasks, especially those that learners believed were too challenging for them

Teachers must adapt learning contexts, including environment, strategies for learning, and strategies for assessment, to provide support and challenge for all students, using curriculum outcomes to plan learning experiences appropriate to students' individual learning needs. When these changes are not sufficient for a student to meet designated outcomes, an individual program plan may be developed. For more detailed information, see *Special Education Policy Manual (1996)*, Policy 2.6.

A range of learning experiences, teaching and learning strategies, motivation, resources, and environments provide expanded opportunities for all learners to experience success as they work toward the achievement of designated outcomes. Many of the learning experiences suggested in this guide provide access for a wide range of learners, simultaneously emphasizing both group support and individual activity. Similarly, the suggestions for a variety of assessment practices provide multiple ways for students to demonstrate their achievements.

The Role of Technology

Vision for the Integration of Information

The outcomes in Multimedia 12 are, by nature, technology dependent; students are required to utilize an object-oriented programming language, and integrated development environment. Students also need access to the information and communication technologies available in schools to facilitate learning across the curriculum.

The Nova Scotia Department of Education has articulated five strands in the learning outcomes framework for the integration of information and communication technology within Public School Programs.

Basic Operations and Concepts: concepts and skills associated with the safe and efficient operation of a range of information and communication technology.

Social, Ethical, and Human Issues: the understanding associated with the use of information/communication technology which encourages in students a commitment to pursue personal and social good, particularly to build and improve their learning environments and to foster strong relationships with their peers and others who support their learning.

Productivity: the efficient selection and use of information and communication technology to perform task such as the exploration of ideas, data collection, data manipulation, including the discovery of patterns and relationships, problem solving, and the representation of learning

Communication: specific, interactive technology use supports student collaboration and sharing through communication

Research, Problem Solving, and Decision Making: students' organization, reasoning, and evaluation of their learning rationalize their use of information and communication technology.

Technological Competencies

Information and communication technology is the vehicle that multimedia students use to explore and evaluate the world of communication. While technological competency is certainly one of the Essential Graduation Learnings within Multimedia 12, the role of technology is to facilitate the achievement of the outcomes of this course, rather than to be an end in itself. Through the use of information and communication technology, students create multimedia, and learn to value, appreciate, and become critically literate participants in a rich multimedia culture.

The essence of learning lies in the accessing, gathering, investigating, and managing data; problem solving; decision making; and creating and communicating new understandings in original works. If students are to understand the relationship between ideas and how they are communicated, educators need to develop high-order problem solving and decision-making in their students. Students need to be able to use information and communication technology effectively for all of these purposes. Educators need to model appropriate uses of information and communication technology with their students.

Students need to develop a comfort with information and communication technology and an understanding of what

medium best suits a message in order to fully utilize the power that technology offers. While information and communication technology is a tool for change, it should not become simply a tool for doing the same old thing differently. Information and communication technology enables new forms of expression.

The Multimedia 12 Learning Environment

The Classroom

Learning in Multimedia 12 should take place, for the most part, in a laboratory. There should be one computer per student and students should have access to a printer and a scanner. Arranging the computers in a U shape with the open end of the facing the front of the class allows the teacher to view all screens simultaneously and also allows all students clear access to the front of the room to view the teacher, data screen or board. Tables or counter space are necessary for students to carry out group work, and to take notes. It is anticipated that a great deal of file sharing will need to take place in this course and that file storage requirements may become considerable. It would be helpful for computers to be networked and for students have access to in and out boxes stored on a server. An alternative to this would be the use of memory sticks which would also allow students to store and transfer files with the added benefit of being able to take their work home.

The Learning Culture

It is important to establish a culture in the Multimedia 12 classroom where critical thinking, problem solving and collaboration are valued and encouraged. Students should perceive the teacher as an instructor when necessary, but more frequently the teacher should be perceived as a facilitator, guiding and encouraging students as they acquire problem solving, collaboration and technical skills. The continuous evolution of information/communications technology requires the teacher to be a life long learner, to apply prior knowledge, to be actively curious, and to model these qualities for students.

The role of the student in the Multimedia 12 learning environment involves investigation, interpretation, collaboration, creation and reflection. It is important that students feel comfortable discussing their ideas with others and are willing to share their opinions of others works. Students must be willing to take risks by presenting their ideas in a public forum. It is important that students have the message or idea first and then select a technology tool to convey their message to their audience. Often, this will create a situation

where a student is required to investigate and participate in individual, situational learning where they seek out the proper technology or tool to bring their vision to life.

By taking an active learning approach teachers become part of the learning community and communicate to students that problem solving is a dynamic process with multiple paths to success. It is essential that students be free to collaborate and feel comfortable to take risks in their learning. Students should be encouraged to peer teach and teachers should be comfortable learning along side their students.

Assessing and Evaluating Student Learning

Assessment is the systematic process of gathering information on student learning.

Evaluation is the process of analysing, reflecting upon, and summarizing assessment information, and making judgements or decisions based upon the information gathered.

The Principles of Assessment and Evaluation articulated in the document *Public School Programs* should be used as the basis of assessment and evaluation, policies, procedures, and practices.

Effective Assessment and Evaluation Practices

Effective assessment improves the quality of learning and teaching. It can help students to become more reflective and to have control of their own learning, and it can help teachers to monitor and focus their instructional programs.

Assessment and evaluation of student learning should accommodate the complexity of learning and reflect the complexity of the curriculum. Evaluation should be based on the full range of learning outcomes towards which students have been working during the reporting period, be proportionate to the learning experiences related to each outcome, and focus on patterns of achievement as well as specific achievement.

In reflecting on the effectiveness of their assessment program, teachers should consider the extent to which their practices

- are fair in terms of the student's background or circumstances
- are integrated with learning
- provide opportunities for authentic learning
- focus on what students can do rather than on what they cannot do
- provide students with relevant, supportive feedback that helps them to shape their learning
- describe students' progress toward learning outcomes
- help them to make decisions about revising, supporting, or extending learning experiences
- support learning risk taking
- provide specific information about the processes and strategies students are using
- provide students with diverse and multiple opportunities to demonstrate their achievement
- accommodate multiple responses and a range of tasks and resources
- provide evidence of achievement in which students can take pride
- acknowledge attitudes and values as significant learning outcomes

- encourage students to reflect on their learning and to articulate personal learning plans
 - help them to make decisions about teaching strategies, learning experiences and environments, student grouping, and resources
 - include students in developing, interpreting, and reporting on assessment

Involving Students in the Assessment Process

When students are aware of the outcomes they are responsible for and the criteria by which their work will be assessed or evaluated, they can make informed decisions about the most effective ways to demonstrate they know, are able to do, and value.

It is important that students participate actively in the assessment and evaluation of their learning, developing their own criteria and learning to judge a range of qualities in their work. Students should have access to models in the form of scoring criteria, rubrics, and work samples.

As lifelong learners, students assess their own progress, rather than relying on external measures, for example marks, to tell them how well they are doing. Students who are empowered to assess their own progress are more likely to perceive their learning as its own reward. Rather than asking What does the teacher want? students need to ask questions such as What have I learned? What can I do now that I couldn't do before? What do I need to learn next?

Effective assessment practices provide opportunities for students to

- reflect on their progress toward achievement of learning outcomes
- assess and evaluate their learning
- set goals for future learning

Diverse Learning Styles and Needs

Teachers should develop assessment practices which affirm and accommodate students' cultural and linguistic diversity. Teachers should consider patterns of social interaction, diverse learning styles, and the multiple ways oral, written, and visual language are used in different cultures for a range of purposes. Student performance takes place not only in a learning context, but in a social and cultural context as well.

Assessment practices must be fair, equitable, and without bias, providing a range of opportunities for students to demonstrate their learning. Teachers should be flexible in evaluating the learning success of students and seek diverse ways for students to demonstrate their personal best. In inclusive classrooms, students with special needs have opportunities to demonstrate their learning in their own way, using media which accommodate their needs, and at their own pace.

Using a Variety of Assessment Strategies

When teachers make decisions about what learning to assess and evaluate, how to assess and evaluate, and how to communicate the results, they send clear messages to students and others about what learning they value; for example, teachers can communicate that they value risk taking or lateral thinking by including these elements in determining marks.

Assessment involves the use of a variety of methods to gather information about a wide range of student learning and to develop a valid and reliable snapshot of what students know and are able to do that is clear, comprehensive, and balanced. The assessment process provides information about each student's progress toward achievement of learning outcomes that teachers can use to assign marks, to initiate conversations with students, or to make decisions in planning subsequent learning experiences.

Teachers align evaluation and assessment practices with student-centred learning practices when they

- design assessment and evaluation tasks that help students make judgements about their own learning and performance
- provide assessment and evaluation tasks that allow for a variety of learning styles and preferences
- individualize assessment and evaluation tasks to accommodate specific learning needs
- work with students to describe and clarify what will be assessed and evaluated and how it will be assessed and evaluated
- provide students with regular and specific feedback on their learning

Assessment activities, tasks, and strategies include, for example,

- ▶ anecdotal records
- ▶ artifacts
- ▶ audiotapes
- ▶ checklists
- ▶ conferences
- ▶ certifications
- ▶ demonstrations
- ▶ dramatizations
- ▶ exhibitions
- ▶ rating scales
- ▶ interviews (structured or informal)
- ▶ inventories
- ▶ investigations
- ▶ learning logs or journals
- ▶ media products
- ▶ observations (structured or informal)
- ▶ peer assessments
- ▶ performance tasks

- ▶ presentations
- ▶ portfolios
- ▶ reports
- ▶ presentations
- ▶ projects
- ▶ questioning
- ▶ questionnaires
- ▶ quizzes, tests, examinations
- ▶ reviews of performance
- ▶ sorting scales (rubrics)
- ▶ self-assessments
- ▶ surveys
- ▶ videotapes
- ▶ work samples
- ▶ written assignments

Portfolios

Portfolios engage students in the assessment process and allow them to participate in the evaluation of their learning. Portfolios are most effective when they provide opportunities for students to reflect on and make decisions about their learning. The students and teacher should collaborate to make decisions about the contents of the portfolio and to develop the criteria for evaluating the portfolio.

Portfolios should include

- the guidelines for selection
- the criteria for judging merit
- evidence of student reflection

Portfolio assessment is especially helpful for the student who needs significant support. Teachers should place notes and work samples from informal assessment in the portfolio and use the portfolio to collaborate with the student in identifying strengths and needs, selecting learning experiences, and selecting work that best reflects the student's progress toward achievement of learning outcomes.

It is important that students share their portfolios with other students so that all students may see exemplars that represent a range of strategies for expression and levels of complexity in ideas and understanding.

Outlines and other evidence of planning, allow students to examine their progress and demonstrate achievement to teachers, parents, and others.

Students should be encouraged to develop a portfolio which demonstrates their achievements in a context beyond a particular course, including letters, certificates, and photographs, for example, as well as written documents. A portfolio can be very helpful when students need to demonstrate their achievements to potential

employers or admission offices of post-secondary institutions.

Tests and Examinations

Traditional tests and examinations are not, by themselves, adequate to assess student learning. The format of tests and examinations can be revised and adapted to reflect key aspects of the curriculum. Some teachers, for example, have designed tests and examinations based on collaborative or small-group learning, projects, or portfolio learning. Creating opportunities for students to collaborate on a test or examination is an effective practice in the interactive classroom, to assess learning of a higher order than recall of information, for example, learning that requires synthesis, analysis, or evaluation.

In learning activities that involve solving a design problem, for example, students might work collaboratively to clarify and define the task, and then work either collaboratively or individually to develop a solution. Students might be given a range of questions, issues, or problems, and work collaboratively to clarify their understanding of the assignments and plan responses in preparation for the examination for which only one of the questions, issues, or problems will be assigned.

The initial list of questions, issues, or problems can be developed by the teacher, negotiated by the teacher with students, or developed by students and screened by the teacher.

Process-based tests and examinations allow students demonstrate knowledge and skills and apply strategies at multiple stages in learning processes, for example, in identifying problems, challenges, and opportunities; gathering, evaluating, and synthesizing information; generating options; and developing and evaluating solutions.

Traditional tests and examinations may present a number of problems in scheduling and resource allocation. Process-based tests and examinations may be undertaken in steps during several class periods over a number of days. Students have opportunities to revise, reflect on, and extend their knowledge and understanding. Teachers have opportunities to develop comprehensive assessments, to monitor and evaluate learning at multiple points in a process, and to use time flexibly.

Certification

In some courses, students will need to prepare to demonstrate their learning through entrance tests and examinations, or to obtain or upgrade a certification. Replicating this type of assessment in the classroom can help students prepare for the conditions and assessment formats they may encounter in workplace and post-secondary situations.

To make this kind of assessment an effective learning experience, teachers should define a specific context and purpose, for example, the operation of a device, the identification of materials labels, or the demonstration of a technique or procedure.

Appendix A: Resources

NSSBB #: 23940
ISBN: 0205343872
Title: **Multimedia Design and Production for Students and Teachers**
Supplier: Pearson Education Canada
Published: 2004
Price: \$33.56
Language: English

Notes: This resource explores the unlimited educational-creative potential of combining digital media and technology with the expressive powers of traditional media production methods pioneered by the great media producers of the past. This practical text describes ideas and techniques that will bring life, expression, and learning to the application of various multimedia tools. The projects can be followed step by step or they can be modified and interpreted to match particular purposes and skills. Includes chapter outlines, problems, activities, key terms, and illustrations.

Components/

Authors: Multimedia Design and Production for Students and Teachers - Edward Counts

Resource Type: Teacher resource, guide, or manual

Approved: (Subject - Grade Level - Category - Guidance Qty - Date Listed)

Technology-Related Education/Multimedia/Multimedia 12 - 12

NSSBB #: 23939
ISBN: 0761978534
Title: **Multimedia Projects in the Classroom: A Guide to Development and Evaluation**
Supplier: Corwin Press
Published: 2002
Price: \$24.95
Language: English

Notes: Covers the basics of production and includes the following topics: - Integrating curriculum content into multimedia production - Developing multimedia projects in the classroom - Evaluating multimedia projects - Producing professional multimedia

Components/

Authors: Multimedia Projects in the Classroom: A Guide to Development and Evaluation - Timothy D. Green, Abbie Brown

Resource Type: Teacher resource, guide, or manual

Approved: (Subject - Grade Level - Category - Guidance Qty - Date Listed)

Technology-Related Education/Multimedia/Multimedia 12 - 12

Appendix B: Copyright Issues

As always educators and parents bear the greatest responsibility for developing positive values and ethical behavior in students. While the concept of copyright is abstract, unauthorized use of intellectual and physical property is stealing, as real in its harmful consequences as shoplifting or theft of a vehicle. Theft violates both law and morality, and brings harm to individuals and civil society.

Definition of Copyright

Copyright is the legal protection of literary, dramatic, artistic, and musical works, sound recordings, performances, and communications signals.

The Law

Canadian copyright law may be summarized as:

- ▶ all materials, including students' work, are copyrighted unless explicitly identified as in the public domain
- ▶ no copyrighted materials may be used without permission of the owner; most owners are willing to grant permission for educational purposes
- ▶ all use (whether copyrighted or in the public domain) must be cited

Suggestions for teachers and students

Teachers should model the ethical use of intellectual property. For example:

- ▶ Teachers always cite sources of information and multimedia used in the classroom.
- ▶ Teachers encourage students to create original work.
- ▶ Teachers draw student's attention to situations and examples where ethical use of information or multimedia is questionable.
- ▶ Teachers do not accept plagiarized work from students.
- ▶ Teachers do not accept student research or projects without properly cited references.

- ▶ Students cite sources of ideas from the earliest grades with increasing use of accepted citation formatting.
- ▶ Students use the copyright symbol on their own original works.
- ▶ Students use a process or authoring cycle where teacher input is included, which in turn reduces the temptation to plagiarize.
- ▶ Students credit and value original works.
- ▶ Students ask for permissions to use others' works.

Current Copyright Law in Canada

Copyright law as it applies to information and communications technology is still evolving. For the most current information, teachers should visit the Website of Learning Resources and Technology, Department of Education.

Appendix F: Glossary of Terms

external sources: the entire range of elements that may be included in a multimedia product, including images, time-base images, sound and text.

image: a primarily symbolic visual representation other than text. For example—images and photographs of physical objects, paintings, prints, drawings, other images and graphics, animations and moving pictures, film, diagrams, maps, musical notation. Note that image may include both electronic and physical representations.

impact: the combination of cognitive, emotional, and physical responses elicited by a multimedia product.

interactive media: requires interaction from the user to be understood, executed, or experienced. For example— forms on web pages, applets, multimedia learning objects, chat services, virtual reality.

multimedia: a number of diverse technologies that allow visual and audio media to be combined in new ways for the purpose of communicating digitally.

text: any language event, whether oral, written or visual.

sequences (time-based) image: a sequence of images organized for a narrative purpose, for example, moving picture, film, video, animation, and presentation.

audience: the people for whom the message/idea is intended.

Appendix I: Copyright Issues

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