



International Circle of Educational Institutes for Graphic Arts: Technology and Management
**46th Annual International Conference on Graphic Arts
and Media Technology Management and Education**
25-29 May 2014, Athens and Corinthia, Greece

Color choice in the process of product promotion

Konstantina Patsialou, Iro Laskari

Presented by

KONSTANTINA PATSIALOU

INTRODUCTION

Color has been studied by scientists and artists, theorists and philosophers throughout the ages from antiquity till nowadays.

Physics, Chemistry, Medicine, Psychology, Technology, Art, Applied Arts, Semiotics, Communication, Marketing, etc. have examined the multidimensional phenomenon of color.

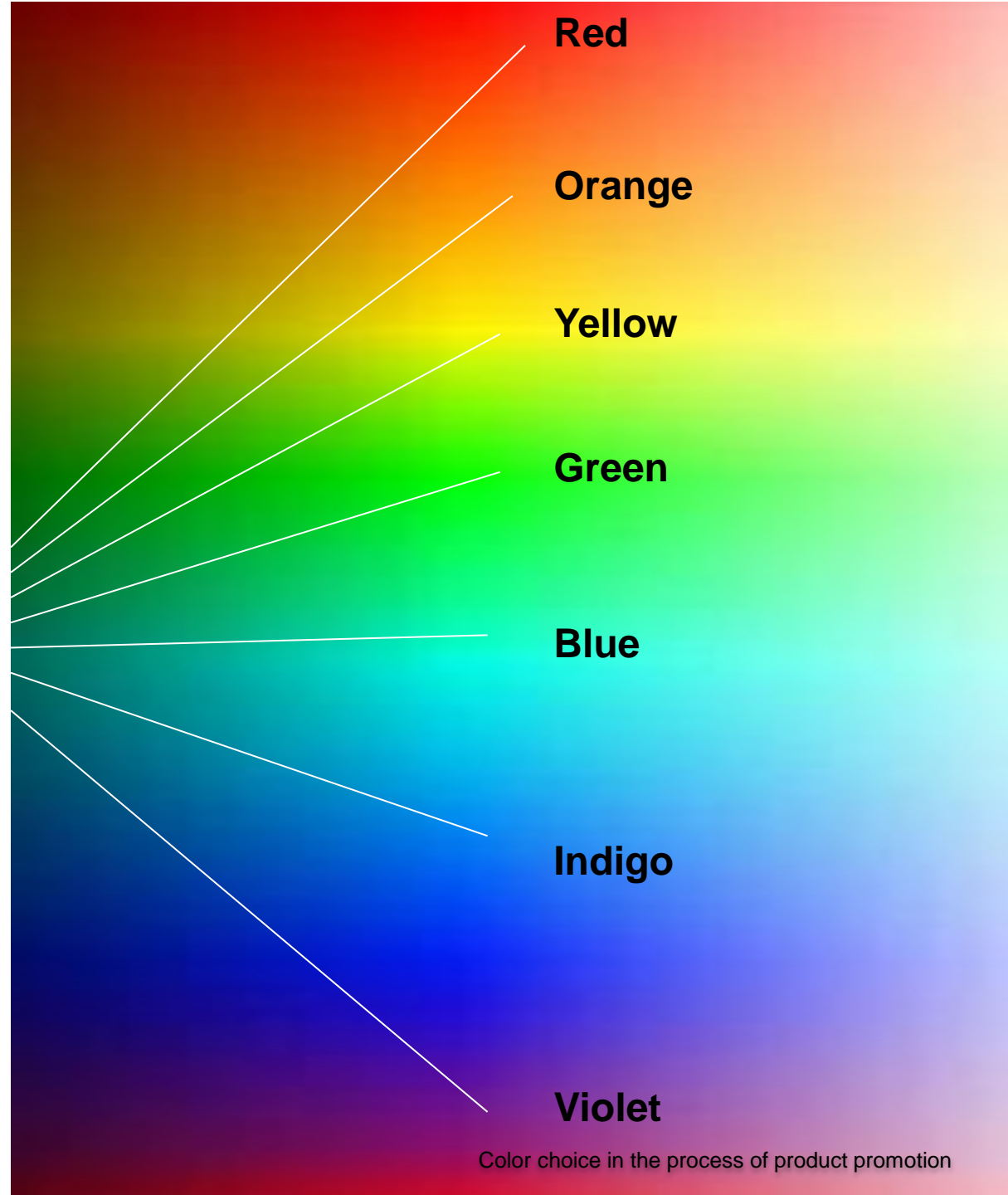
What should a designer have in mind when it comes to choosing a color?

This paper will present a **theoretical model**, aiming to provide designers an integrated analysis on effective color choices.

WHAT IS COLOR?

Color is the result of an external stimulus (light radiation) which is transferred from the eye to the brain.

The interpretive reaction of the human brain is developing at different wavelengths of light, in the visible region of the electromagnetic spectrum, which includes radiation from approximately 400 to 700 nm.





**The human brain
perceives more**

COLOR CAN

- **grab attention and guide the viewer's eye**
- **sort and organize information**

- **carry thoughts and messages easily and quickly**
- **cause feelings**
- **affect people's mood**
- **stimulate senses such as taste and smell**

- **add character and give identity to a product**
- **help companies consolidate or diversify in relation to competition.**

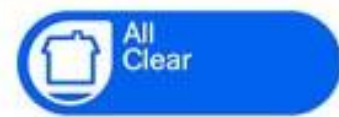
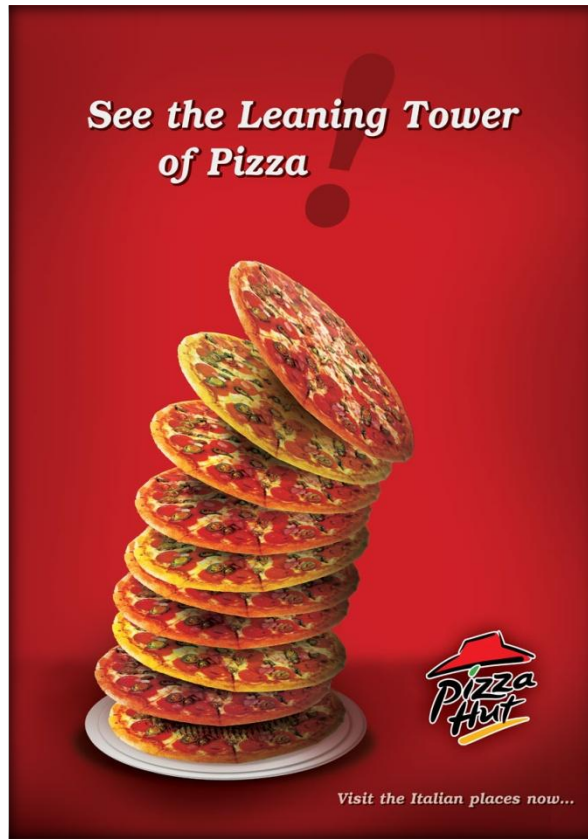
Color is an integral element of corporate and marketing communications.

Factors that specify the color identity of products

1. Biological influences and psychological implications of color

The light falling on certain nerve cells activates them.
Each color produces particular chemical reaction (hormonal response).

The hormonal response may indicate taste, open up appetite, help digestion, increase or slow down blood pressure, cause alertness or relaxation, denote risks, etc.



1. Biological influences and psychological implications of color

Color can stimulate feelings, either positive or negative, such as calm and depression.

The screenshot shows the Hygeia Hospital website. The header is blue with the hospital logo and navigation links. The main content area is white with blue accents. A prominent graphic says "I ♥ MY WORK". Text on the page mentions that Hygeia Hospital is the first and only hospital in Greece to be awarded for the 2nd time for its work environment, ranked among the top companies listed as Best Workplaces 2013. The page also lists various medical services and centers of excellence.

The advertisement features a man in a light-colored shirt looking directly at the camera. The text reads: "Depression is more than stress. It doesn't go away." The Beyond Blue logo and contact information are at the bottom.

Why is facebook so blue? ←

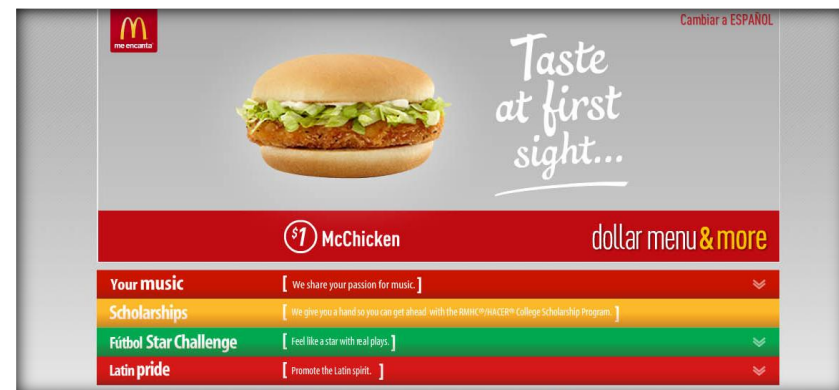
Blue acts as a transparent color for most of the time that someone spends watching the main background of a website.

The screenshot shows the Facebook login and sign-up page. The page is predominantly blue. It includes the Facebook logo, login fields for email and password, and a sign-up form with fields for full name, email, and password.

2. Characteristics of target audience

Every social group has differences in the perception and interpretation of colors.

Response depends on several factors, including age, gender, education, cultural and socio-economic background, regional attitudes, etc.



3. Denotative and connotative meanings of color

Every color has its own set of connections that convey information, with the color itself acting as a signifier of ideas -both positive and negative.

Color	Associated with	Positive	Negative	Cultural links
Red	Fire Heat Blood Heart	Passion Love, Sex Energy Enthusiasm Excitement Power Strength Warmth	Danger Anger Aggression Violence Battle, War Sacrifice Revolution Evil	Ivory Coast, Africa Dark red indicates death Most of Asia Marriage, prosperity, happiness South Africa Mourning

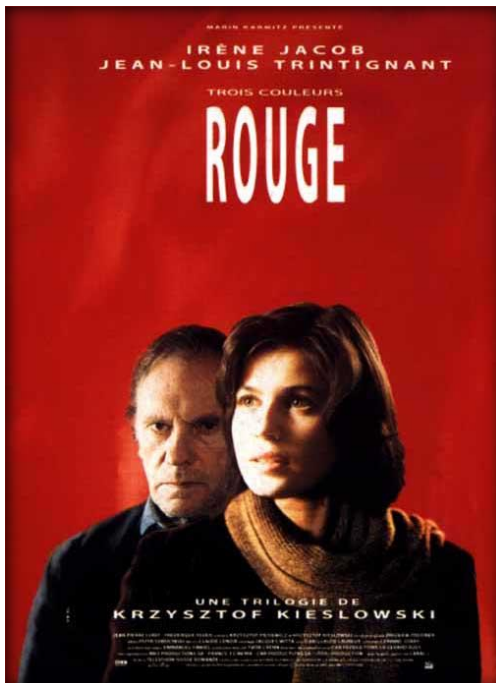
3. Denotative and connotative meanings of color

Color in graphic design can be used as a signifier leading to different interpretations. Its selection is often associated to:

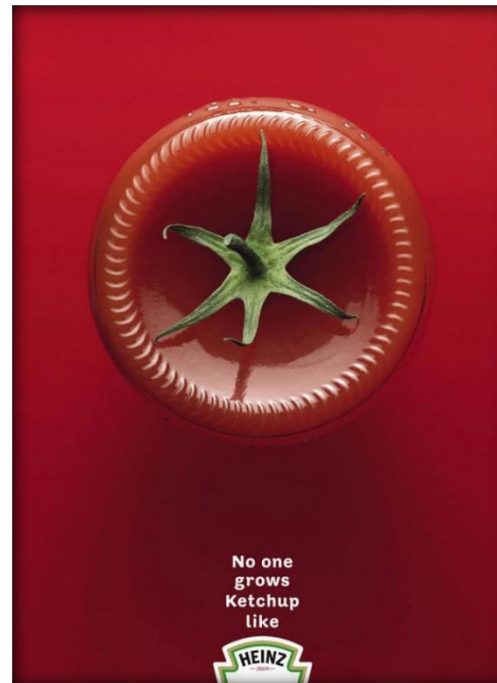
- the name of the product,
- the product's color,
- the symbolic meanings it carries.

*love,
passion,
danger,
violence*

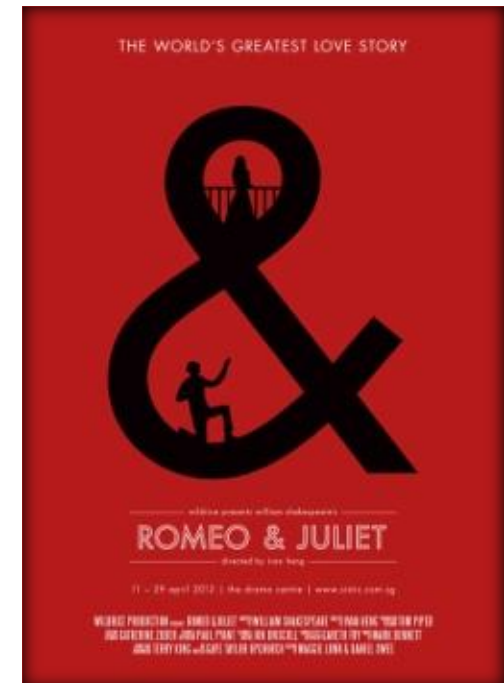
Name



Product's color



Symbolic meanings



3. Denotative and connotative meanings of color

Color interpretations are altered:

- depending on the amount and the placement of color in design,
- when colors are correlated with other colors, shapes or objects,
- when there is a change in a color's hue, saturation or brightness.

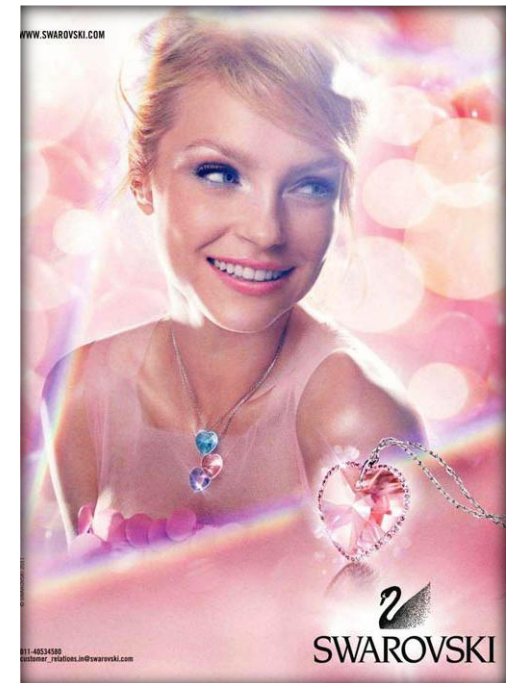
↗ pregnancy test



↗ France



← romantic



4. Creating corporate identity

a. Connection of color with brand image and previous applications

Companies are increasingly using specific colors or color combinations to denote the unique identities of their products or services, in order to be easily identifiable.



What is Santa Claus drinking?



Some companies protect their colors legally, so that others may not be able to use them.

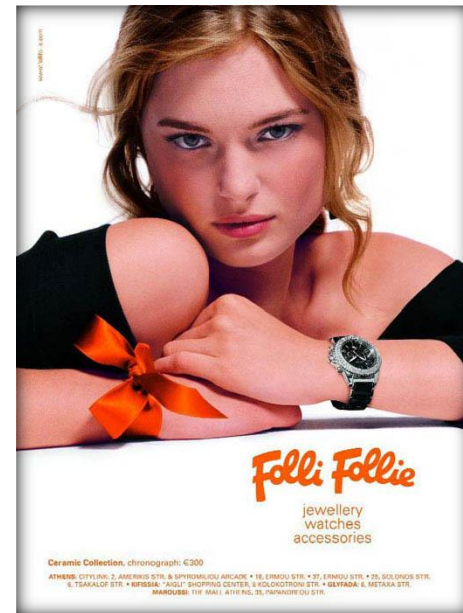
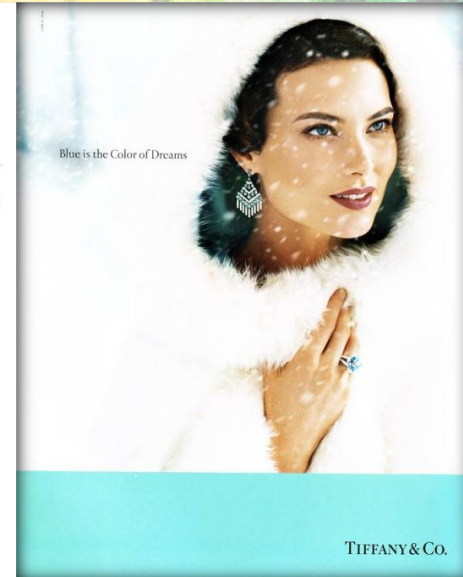


4. Creating corporate identity

b. Competition

Color is used to differentiate the companies and make them stand out.

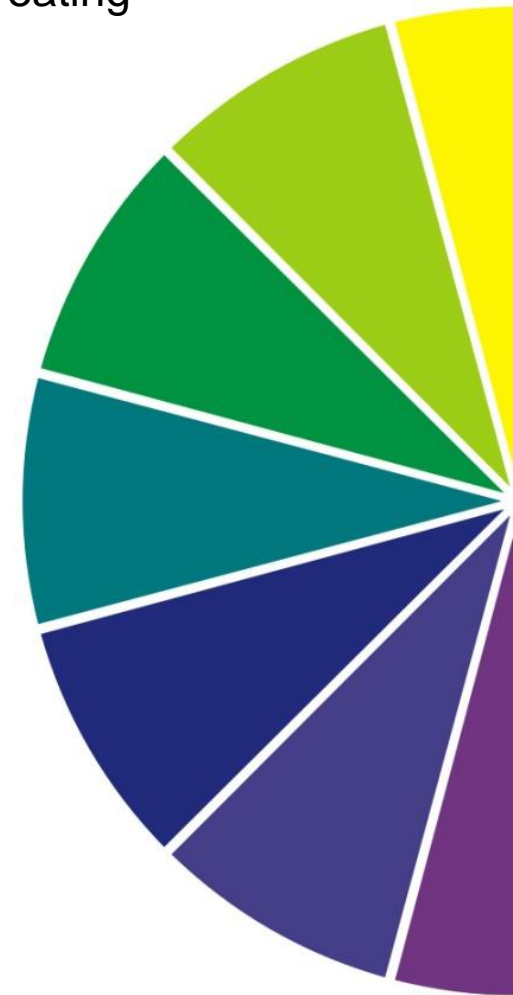
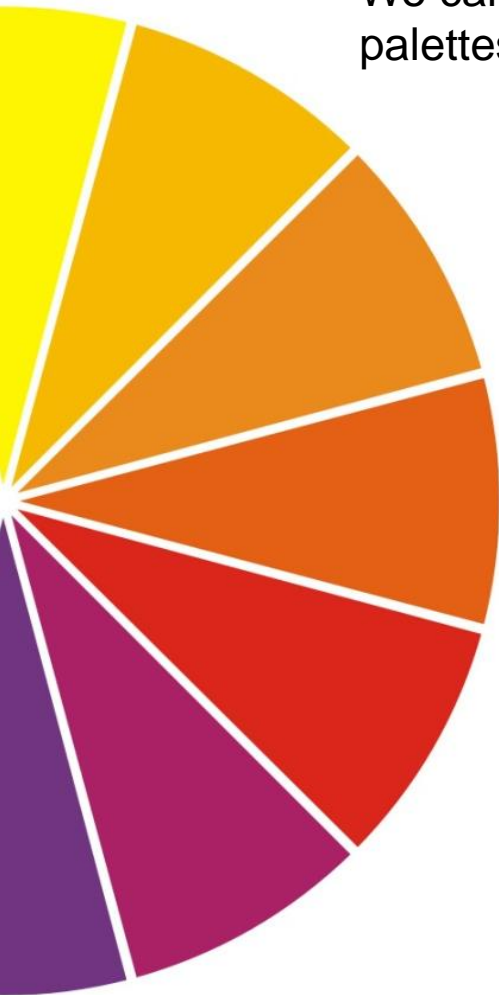
The right color choice can confer superiority over the competition.



5. Color combination

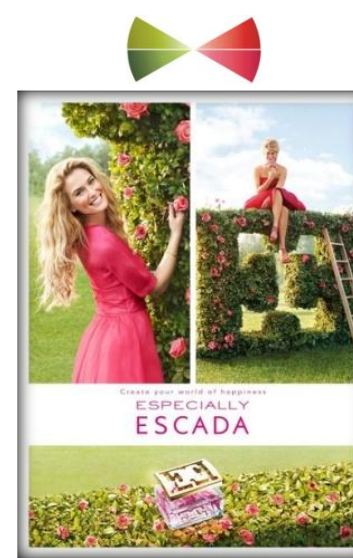
a. Color schemes

We can choose a successful color combination by creating palettes and using tools such as the color wheel.



5. Color combination

a. Color schemes



5. Color combination

b. Interaction between colors

The combination of different colors can give the impression of movement in a static image or make us believe that colors are different.

Is this picture moving?



c. Dominant - subdominant - accent colors

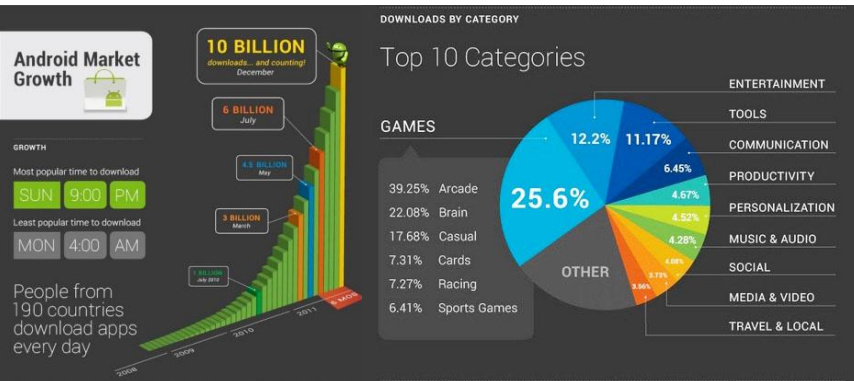
Depending on the conveyed message, the same colors are used and combined in different amounts. The dominant color is supported by the subdominant and accent colors.



6. Color coding

Color coding is used to organize information in order to

- separate different data,
- arrange them in groups,
- classify them hierarchically.



*Which milk do you drink?
Blue or green?*



Color in packaging helps the consumer recognize a product, especially when he knows the product he repeatedly buys.

7. Color and text - Readability



Using color in text not only creates levels of importance or hierarchy, but also facilitates readability.

I can't read anything!

Only value contrast (not hue and saturation) makes objects distinguishable from their background.

The text color and the background color have the same brightness, and so they cause the effect of saccadic eye movements. If we desaturate this image the text will not be visible.

8. Type of product

The type of product and its specific characteristics imply a different use of color.

Prescription drugs



In some categories of products or services there are laws that determine their image and consequently the color application.



Inside InStyle STAFF PICKS

Go Green Like Our Editors

Eco-friendly options, right on time for Earth Day, April 22!

BOTANICAL PAPER WORKS STATIONERY
"I love these cards, which are embedded with seedlings. You can plant the whole thing. It's the sending a thank-you and a bouquet of flowers all in one small envelope."
—**Shige Prabhakar, fashion assistant** \$20, botanicalpaperworks.com

INTELLIGENT PRODUCTS OFFICER
"She's the hands-on person and great officer. It's not just about the certified organic, essential oils (I'd love that), which is amazing to give a room just a hint of fragrance."
—**Amy Spawnt, beauty director and editor** \$19, intelligentscents.com

STELLA MCCARTNEY
"Her accessories are so low, you'll never know they're made from vegan materials—no leather or skin."
—**Leah Hery, accessories director** \$21, stellamccartney.com

LUNCHBINS BAGGIES
"I put my sandwiches, sandwiches and snacks in these reusable bags to use on picnics."
—**Lisa Marks, senior photo editor** \$5-\$9, lunchbins.com

BUTTER LONDON BALS, POLISH
"The brand of polish is free of harmful toxins such as formaldehyde, plus the shades are always on trend. You'll find that creamy feel on my lips this spring."
—**Sheryl George, beauty assistant** \$10, \$11, \$12, \$13, \$14, \$15, \$16, \$17, \$18, \$19, \$20, \$21, \$22, \$23, \$24, \$25, \$26, \$27, \$28, \$29, \$30, \$31, \$32, \$33, \$34, \$35, \$36, \$37, \$38, \$39, \$40, \$41, \$42, \$43, \$44, \$45, \$46, \$47, \$48, \$49, \$50, \$51, \$52, \$53, \$54, \$55, \$56, \$57, \$58, \$59, \$60, \$61, \$62, \$63, \$64, \$65, \$66, \$67, \$68, \$69, \$70, \$71, \$72, \$73, \$74, \$75, \$76, \$77, \$78, \$79, \$80, \$81, \$82, \$83, \$84, \$85, \$86, \$87, \$88, \$89, \$90, \$91, \$92, \$93, \$94, \$95, \$96, \$97, \$98, \$99, \$100, \$101, \$102, \$103, \$104, \$105, \$106, \$107, \$108, \$109, \$110, \$111, \$112, \$113, \$114, \$115, \$116, \$117, \$118, \$119, \$120, \$121, \$122, \$123, \$124, \$125, \$126, \$127, \$128, \$129, \$130, \$131, \$132, \$133, \$134, \$135, \$136, \$137, \$138, \$139, \$140, \$141, \$142, \$143, \$144, \$145, \$146, \$147, \$148, \$149, \$150, \$151, \$152, \$153, \$154, \$155, \$156, \$157, \$158, \$159, \$160, \$161, \$162, \$163, \$164, \$165, \$166, \$167, \$168, \$169, \$170, \$171, \$172, \$173, \$174, \$175, \$176, \$177, \$178, \$179, \$180, \$181, \$182, \$183, \$184, \$185, \$186, \$187, \$188, \$189, \$190, \$191, \$192, \$193, \$194, \$195, \$196, \$197, \$198, \$199, \$200, \$201, \$202, \$203, \$204, \$205, \$206, \$207, \$208, \$209, \$210, \$211, \$212, \$213, \$214, \$215, \$216, \$217, \$218, \$219, \$220, \$221, \$222, \$223, \$224, \$225, \$226, \$227, \$228, \$229, \$230, \$231, \$232, \$233, \$234, \$235, \$236, \$237, \$238, \$239, \$240, \$241, \$242, \$243, \$244, \$245, \$246, \$247, \$248, \$249, \$250, \$251, \$252, \$253, \$254, \$255, \$256, \$257, \$258, \$259, \$260, \$261, \$262, \$263, \$264, \$265, \$266, \$267, \$268, \$269, \$270, \$271, \$272, \$273, \$274, \$275, \$276, \$277, \$278, \$279, \$280, \$281, \$282, \$283, \$284, \$285, \$286, \$287, \$288, \$289, \$290, \$291, \$292, \$293, \$294, \$295, \$296, \$297, \$298, \$299, \$300, \$301, \$302, \$303, \$304, \$305, \$306, \$307, \$308, \$309, \$310, \$311, \$312, \$313, \$314, \$315, \$316, \$317, \$318, \$319, \$320, \$321, \$322, \$323, \$324, \$325, \$326, \$327, \$328, \$329, \$330, \$331, \$332, \$333, \$334, \$335, \$336, \$337, \$338, \$339, \$340, \$341, \$342, \$343, \$344, \$345, \$346, \$347, \$348, \$349, \$350, \$351, \$352, \$353, \$354, \$355, \$356, \$357, \$358, \$359, \$360, \$361, \$362, \$363, \$364, \$365, \$366, \$367, \$368, \$369, \$370, \$371, \$372, \$373, \$374, \$375, \$376, \$377, \$378, \$379, \$380, \$381, \$382, \$383, \$384, \$385, \$386, \$387, \$388, \$389, \$390, \$391, \$392, \$393, \$394, \$395, \$396, \$397, \$398, \$399, \$400, \$401, \$402, \$403, \$404, \$405, \$406, \$407, \$408, \$409, \$410, \$411, \$412, \$413, \$414, \$415, \$416, \$417, \$418, \$419, \$420, \$421, \$422, \$423, \$424, \$425, \$426, \$427, \$428, \$429, \$430, \$431, \$432, \$433, \$434, \$435, \$436, \$437, \$438, \$439, \$440, \$441, \$442, \$443, \$444, \$445, \$446, \$447, \$448, \$449, \$450, \$451, \$452, \$453, \$454, \$455, \$456, \$457, \$458, \$459, \$460, \$461, \$462, \$463, \$464, \$465, \$466, \$467, \$468, \$469, \$470, \$471, \$472, \$473, \$474, \$475, \$476, \$477, \$478, \$479, \$480, \$481, \$482, \$483, \$484, \$485, \$486, \$487, \$488, \$489, \$490, \$491, \$492, \$493, \$494, \$495, \$496, \$497, \$498, \$499, \$500, \$501, \$502, \$503, \$504, \$505, \$506, \$507, \$508, \$509, \$510, \$511, \$512, \$513, \$514, \$515, \$516, \$517, \$518, \$519, \$520, \$521, \$522, \$523, \$524, \$525, \$526, \$527, \$528, \$529, \$530, \$531, \$532, \$533, \$534, \$535, \$536, \$537, \$538, \$539, \$540, \$541, \$542, \$543, \$544, \$545, \$546, \$547, \$548, \$549, \$550, \$551, \$552, \$553, \$554, \$555, \$556, \$557, \$558, \$559, \$560, \$561, \$562, \$563, \$564, \$565, \$566, \$567, \$568, \$569, \$570, \$571, \$572, \$573, \$574, \$575, \$576, \$577, \$578, \$579, \$580, \$581, \$582, \$583, \$584, \$585, \$586, \$587, \$588, \$589, \$590, \$591, \$592, \$593, \$594, \$595, \$596, \$597, \$598, \$599, \$600, \$601, \$602, \$603, \$604, \$605, \$606, \$607, \$608, \$609, \$610, \$611, \$612, \$613, \$614, \$615, \$616, \$617, \$618, \$619, \$620, \$621, \$622, \$623, \$624, \$625, \$626, \$627, \$628, \$629, \$630, \$631, \$632, \$633, \$634, \$635, \$636, \$637, \$638, \$639, \$640, \$641, \$642, \$643, \$644, \$645, \$646, \$647, \$648, \$649, \$650, \$651, \$652, \$653, \$654, \$655, \$656, \$657, \$658, \$659, \$660, \$661, \$662, \$663, \$664, \$665, \$666, \$667, \$668, \$669, \$670, \$671, \$672, \$673, \$674, \$675, \$676, \$677, \$678, \$679, \$680, \$681, \$682, \$683, \$684, \$685, \$686, \$687, \$688, \$689, \$690, \$691, \$692, \$693, \$694, \$695, \$696, \$697, \$698, \$699, \$700, \$701, \$702, \$703, \$704, \$705, \$706, \$707, \$708, \$709, \$710, \$711, \$712, \$713, \$714, \$715, \$716, \$717, \$718, \$719, \$720, \$721, \$722, \$723, \$724, \$725, \$726, \$727, \$728, \$729, \$730, \$731, \$732, \$733, \$734, \$735, \$736, \$737, \$738, \$739, \$740, \$741, \$742, \$743, \$744, \$745, \$746, \$747, \$748, \$749, \$750, \$751, \$752, \$753, \$754, \$755, \$756, \$757, \$758, \$759, \$760, \$761, \$762, \$763, \$764, \$765, \$766, \$767, \$768, \$769, \$770, \$771, \$772, \$773, \$774, \$775, \$776, \$777, \$778, \$779, \$780, \$781, \$782, \$783, \$784, \$785, \$786, \$787, \$788, \$789, \$790, \$791, \$792, \$793, \$794, \$795, \$796, \$797, \$798, \$799, \$800, \$801, \$802, \$803, \$804, \$805, \$806, \$807, \$808, \$809, \$810, \$811, \$812, \$813, \$814, \$815, \$816, \$817, \$818, \$819, \$820, \$821, \$822, \$823, \$824, \$825, \$826, \$827, \$828, \$829, \$830, \$831, \$832, \$833, \$834, \$835, \$836, \$837, \$838, \$839, \$840, \$841, \$842, \$843, \$844, \$845, \$846, \$847, \$848, \$849, \$850, \$851, \$852, \$853, \$854, \$855, \$856, \$857, \$858, \$859, \$860, \$861, \$862, \$863, \$864, \$865, \$866, \$867, \$868, \$869, \$870, \$871, \$872, \$873, \$874, \$875, \$876, \$877, \$878, \$879, \$880, \$881, \$882, \$883, \$884, \$885, \$886, \$887, \$888, \$889, \$890, \$891, \$892, \$893, \$894, \$895, \$896, \$897, \$898, \$899, \$900, \$901, \$902, \$903, \$904, \$905, \$906, \$907, \$908, \$909, \$910, \$911, \$912, \$913, \$914, \$915, \$916, \$917, \$918, \$919, \$920, \$921, \$922, \$923, \$924, \$925, \$926, \$927, \$928, \$929, \$930, \$931, \$932, \$933, \$934, \$935, \$936, \$937, \$938, \$939, \$940, \$941, \$942, \$943, \$944, \$945, \$946, \$947, \$948, \$949, \$950, \$951, \$952, \$953, \$954, \$955, \$956, \$957, \$958, \$959, \$960, \$961, \$962, \$963, \$964, \$965, \$966, \$967, \$968, \$969, \$970, \$971, \$972, \$973, \$974, \$975, \$976, \$977, \$978, \$979, \$980, \$981, \$982, \$983, \$984, \$985, \$986, \$987, \$988, \$989, \$990, \$991, \$992, \$993, \$994, \$995, \$996, \$997, \$998, \$999, \$1000.

All About Me

Let's Get Dressed

Lots of clothes are drying on the washing lines.

socks, skirt, dress, t-shirt, woolly hat, belt, shoes, gloves, cardigan, flip-flops, shorts, coat, jumper, wellies, tights, sun hat, trousers, raincoat, scarf

Can you put on your coat? Can you put on a button? Can you put on your shoes? Can you do up a zip?

Point to the clothes you would wear on:
a hot day, a rainy day, a cold day

9. Material of product

An important factor that determines the color choices is the printing surface, i.e. the material of product.

The use of the product imposes a material that gives a particular effect on color, and on the other hand the material determines the way colors will be used.



How many colors would you use for this eco bag?

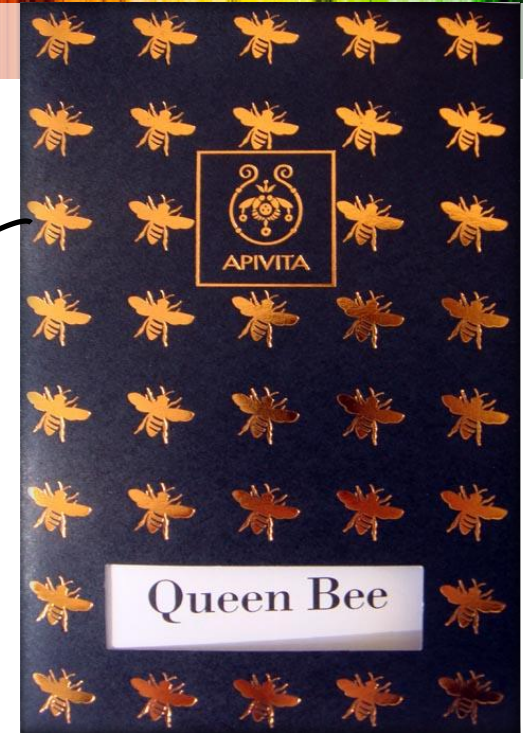
Color choice in the process of product promotion

10. Application of color

a. Printing - Methods, techniques, materials

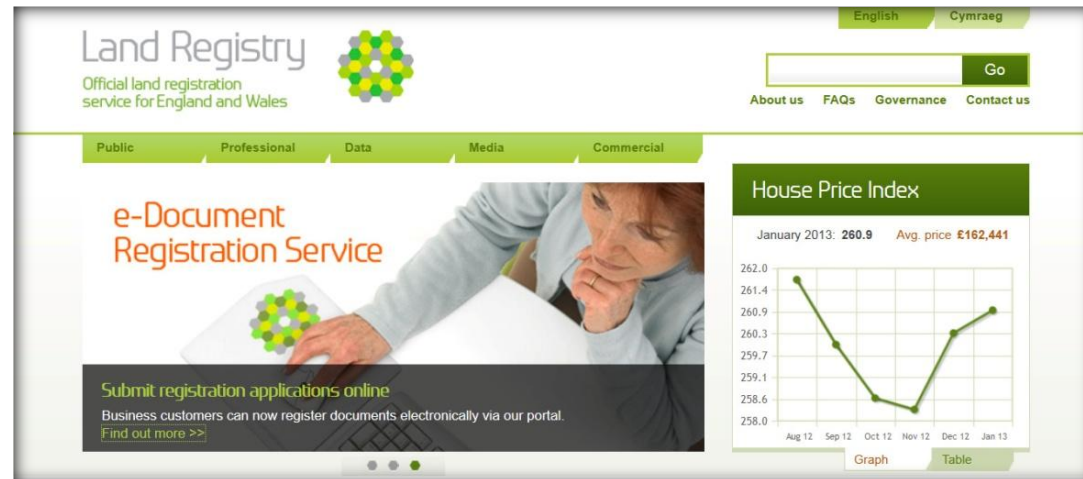
Printing and color are interdependent.

gold printed bees



b. Projection on screen and combination of systems

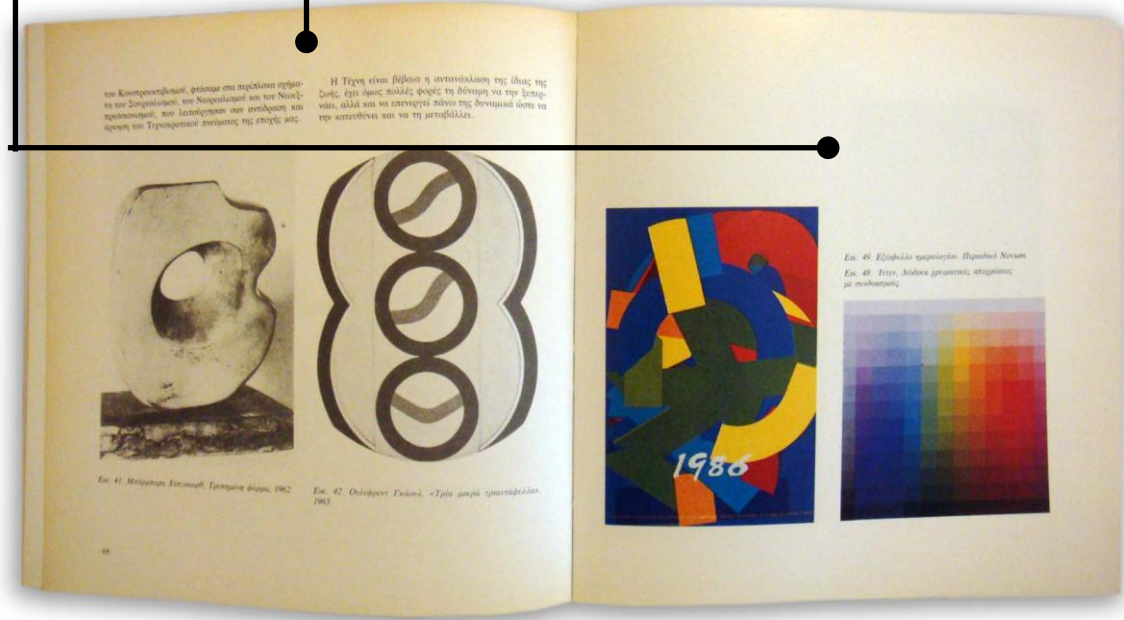
Control and stability are very important in the use of color.



11. Production budget

The designer takes into consideration the entire production process, trying to optimize the final output in a low cost.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16						
A1	A2	A3	A4	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	A5	A6	A7	A8
		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48						
A9	A10	A11	A12	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	A13	A14	A15	A16
		65	66	67	68	69	70	71	72	B1	B2	B3	B4	73	74	75	76	77	78	79	80		
								81	82	83	84	85	86	87	88								



Blue:
 PMS: 282
 CMYK: 100,60,0,60
Yellow:
 PMS: 7406
 CMYK: 0,18,100,0

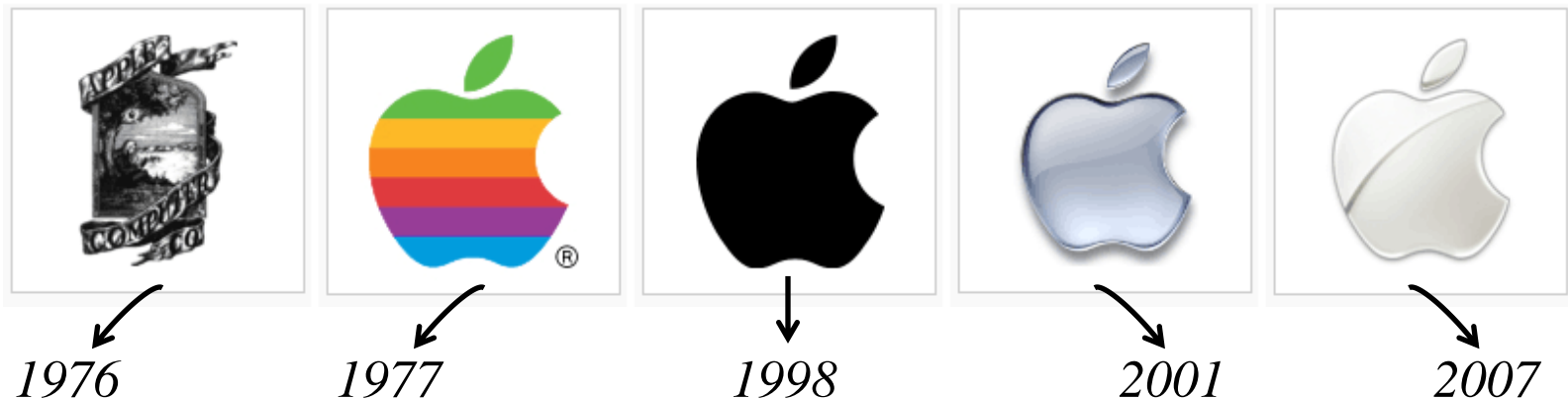
Where necessary, we should use spot colors instead of a four-color printing (CMYK).

12. Trends - Fashion - Seasons - Art movements

Marketers follow color trends and research color options before launching a new product line.



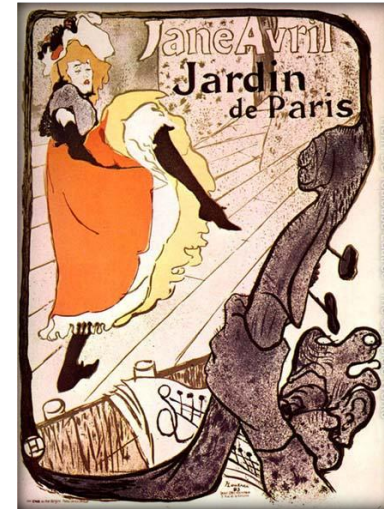
Changing colors make a product look new and catch consumer attention.



12. Trends - Fashion - Seasons - Art movements

There is a relationship between colors and seasons of the year.

Summer



Autumn

Designers are influenced by art movements.



13. Personal choice of customer or designer

Many businessmen choose for their corporate identity a favourite color.

Blue is  American's favourite color

The designer:

acts as a customer's consultant and proposes the appropriate colors for his products or services,

experiments with different color combinations,

links the meanings of colors with the product,

estimates the target audience,

takes into account the competition and the budget,

is aware of the market trends, historical styles and eras, as well as the client's preferences, and

proposes an original solution.

14. Incorrect use of color

Incorrect use of color in graphic design applications is related to those cases where the choice of colors was random, without taking into account the factors that have been analyzed so far.



Incorrect use of colors can:

- cause eye strain,
- reduce readability,
- distract attention,
- confuse and reduce user's efficiency.

Color is probably the most often misused element in user interface design.

A color used in a wrong way, may be worse than not using color.

Color meaning
freshness, health

blue: full fat green: low fat

Color coding

Competition



Product's color

Offers high reflectivity

Cool colors
fridge food

QUESTIONNAIRE FOR OPTIMUM COLOR CHOICE

- ✓ Which is the product and which are its specific **characteristics**?
- ✓ Which is the **purpose** of product promotion (e.g. packaging, advertising, education)?
- ✓ Could we use a color **associated** with the name or the content of the product?
- ✓ Which is the **intended effect** of the composition (e.g. reliability, energy)?
- ✓ Which color is associated with the **emotion** that is expected to occur?
- ✓ Which is the timeless **symbolism** of color?
- ✓ Which is the **target audience** and which are its characteristics?
- ✓ Do we want the audience to link the color with **past experiences** and applications?
- ✓ Is there any communication **material** (e.g. logo) which is identified with the color?
- ✓ Do we want the color to differentiate a product compared to a **competitive**?
- ✓ What would be the ideal **color scheme**?
- ✓ **How many** colors can be used?
- ✓ In which way are the selected colors combined (with other colors, shapes and objects) in a composition, and what is the **meaning of this combination**?
- ✓ Are there **limitations** that affect the color choices (e.g. readability, printing method, budget)?
- ✓ Which are the **color trends**?
- ✓ **For how long** will the color choices follow the product?
- ✓ Are there any **requirements** set by the customer?

*“He who wants to become a master of color
must see, feel, and experience each individual color
in its many endless combination with all other colors”*

Johannes Itten

Thank you



REFERENCES

- Albers, J., "Interaction of Color. Revised and Expanded Edition", (2006), Yale University Press.
- Ambrose, G. & Harris, P., "Χρώμα", (2006), Αθήνα: Dart Books.
- Arnheim, R., "Τέχνη και Οπτική Αντίληψη: Η ψυχολογία της δημιουργικής όρασης", (2005), Αθήνα: Θεμέλιο.
- Bortoli, M. & Maroto, J., "Colours across cultures: Translating colours in interactive marketing communications", first published with the title "Translating colours in web site localisation" in the Proceedings of the European Languages and the Implementation of Communication and Information Technologies (Elicit) conference, (2001), University of Paisley, <<http://globalpropaganda.com/articles/TranslatingColours.pdf>>.
- Holtzschue, L., "Understanding Color: An Introduction for Designers", (2011), Hoboken, New Jersey: John Wiley & Sons, Inc.
- Sable, P. & Akcay, O., "Response to color: Literature review with cross-cultural marketing perspective", International Bulletin of Business Administration, 11, 34-41, (2011), EuroJournals, Inc.
- Sargent, W., "Το χρώμα στη φύση και στην τέχνη", (1987), Αθήνα: Κάλβος.
- Stone, T. L., Adams, S. & Morioka, N., "Color design workbook. A real-world guide to using color in graphic design", (2008), Massachusetts: Rockport Publishers, Inc.
- Walker, M., "Η δύναμη του χρώματος", (2006), Αθήνα: Διόπτρα.
- Αβούρης, Ν., "Εισαγωγή στην επικοινωνία ανθρώπου-υπολογιστή", (2000), Αθήνα: Δίαυλος.
- Αμούργη, Α., Βογιατζή, Μ., Καλαντζάκης, Δ. & Καλαντζής, Β., "Γραφιστική Δημιουργία Έντυπου Υλικού", Γραφιστική, Τόμος Γ', (2002), Πάτρα: ΕΑΠ.
- Κουτσομπόλης, Δ., Γιανναρά, Ειρ. & Λάσκαρη, Η., "Η χρήση του οπτικού αλφαβήτου μέσα από τα επικοινωνιακά μοντέλα", 2ο Παγκόσμιο Συνέδριο Τυπογραφίας και Οπτικής Επικοινωνίας. Επικοινωνία και Νέες Τεχνολογίες, (2004), Θεσσαλονίκη, <<http://www2.media.uoa.gr/people/iweb/docs/Eisigisi%20Final.pdf>>.
- Παπαδοπούλου, Μ., Τσέλιος, Ν., Παπαχρήστος, Λ. & Κόμης Β, "Αξιολόγηση της ορθής χρήσης χρώματος σε διεπιφάνεια χρήσης εκπαιδευτικού λογισμικού", 5ο Πανελλήνιο συνέδριο ΕΤΠΕ, Οι τεχνολογίες της πληροφορίας και της επικοινωνίας στην εκπαίδευση, Πρακτικά συνεδρίου - Μέρος πέμπτο, Θεσσαλονίκη, pp. 701-709, (2006) <<http://www.etpe.gr/new/custom/pdf/etpe1157.pdf>>.