

## **BAB II**

### **ANALISIS**

Dalam penelitian ini, peneliti membagi analisis ke dalam tiga hal sesuai konsep digital literasi yang peneliti usung pada bab I. Pengertian literasi yang diacu dalam penelitian ini adalah literasi sebagai kemampuan kognitif individu (Potter, 2004). Yang termasuk di dalam literasi digital media sebagaimana yang dieksplorasi dalam penelitian ini adalah kemampuan mengakses dan mengurai informasi (Aufderheide, 1993).

Meskipun kadang-kadang pengertian literasi sering mencakup ketrampilan mencipta, penelitian ini tidak mencakup ranah penciptaan, hanya ranah pemahaman. Sedangkan berfokus dalam literasi media digital pengertian yang diacu adalah bagaimanana kemampuan memanggil, menggunakan dan menganalisis informasi yang didapatkan dari media digital. Konsep yang peneliti lihat dalam website adalah:

#### **1. Konsep literasi Kemampuan Mengakses Informasi**

Konsep pertama ini bermakna bahwa seseorang dianggap melek media apabila dapat mengakses dan mengurai informasi yang dihadapinya. Dalam duni digital dewasa ini The Guardian mengulas betapa pentingnya membiasakan para generasi muda tak terkecuali siswa untuk terbiasa menggunakan komputer sebagai bagian dari praktek berkomunikasi mereka sehari-hari. Hal ini dikatakan penting karena bagian memiliki kemampuan melek media berarti juga memiliki kemampuan untuk berinteraksi, mengakses dan mengurai informasi sesuai kebutuhan. Seperti yang terdapat dalam laman berikut ini

... " " 111 : 2010/11/04/teaching-programming-as-guidance

## ICT teaching upgrade expected ... in 2014

A survey for the Guardian shows that so far 33% of boys and just 17% of girls have learned any computer coding skills at school



Children learning coding skills at a summer camp in Bristol that is part of the nationwide Young Rewired State project. Photograph: Sam Frost

"It's really nice to create something rather than just consume – so many people just use other people's stuff," says 12-year-old Milo Piccini Noble. Keen to show off the tic-tac-toe game he has made, Milo challenges me to beat his computer. I fail miserably. "Perhaps I should adjust the level," he says kindly. "It took me a week to make, and I put in three difficulty levels."

Milo is one of six young people aged 11-17 ensconced for five days amid laptops and wires in an office at Spike Island, Bristol's arts and media hub. It's where Mark Wales, from the web development company Small Hadron Collider, has volunteered to teach coding skills as part of the nationwide summer coding camp Young Rewired State, now in its third year.

Three days in, the group has already created a program that uses the height and weight of each Olympic competitor to work out their body mass index and see what proportion are technically underweight, overweight and obese. Today they are pulling data from the web to create a medal table that updates automatically.

Is coding difficult? "Initially, but only because it is very strict," says Alexi Siddiqui, 14. "There's just a lot to remember," adds his friend, Ben Coleclough, also 14. "But when you've made something, it's yours," nods Alexi. "You can share stuff you've made on the internet," adds Jack Baron, 12. "Or your stuff can be linked." Having other people showing that they like his work clearly makes him feel good.

These young people are ahead of the game. Learning how to use Microsoft Office is of little

they're in a minority. In an O2 survey of 1,000 young people carried out this month for the Guardian, just a quarter said they had learned any computer coding at school – 33% of boys and just 17% of girls. Only 6% said they had had a go with a Raspberry Pi – the credit card-sized device that has been heralded by many as the great hope for coding.

The national curriculum for ICT has been suspended as of this September after the education secretary, Michael Gove, said it was "demotivating and dull". In September 2014, the DfE intends to publish the new ICT curriculum at the same time as the revised curriculum for other subjects. But in the two years till then, how are children who have poor access to computers and computer science expertise in school going to be served, when teachers, it seems, are now struggling to understand what they should be teaching in this subject area?

It's been just over six months since the Guardian teamed up with Google to launch its campaign promoting digital literacy. This followed criticism from Google's chief executive, Eric Schmidt, that the ICT curriculum gave pupils no insight into how software is made. Other voices in industry still agree: last week Mike Short, president of the Institution of Engineering and Technology, said that computer science must be taught as a subject in schools or the UK could lose its globally competitive position.

However, teachers are increasingly anxious that without official guidance on what children should be learning, they may do things wrong. "Teachers' confidence varies to a large degree," says Nigel Hooton, ICT leader at St Peter's primary school in Romford. "[It] will depend on who is in your school. Teaching ICT is a statutory requirement, but there is no more official statutory programme of study. I think there may be a bit of a vacuum."

Some teachers who have the skills are already using their newfound freedoms. Darren Kelly, curriculum leader for ICT at Blatchington Mill secondary school in Hove, has written a curriculum for his key stage 3 pupils. But he acknowledges that his school has unusually high numbers of teachers with some form of computing background. "There is some alarm in other schools that they don't have this kind of skill," he says.

Even for Kelly, who works in a specialist ICT school, the fact that there is no statutory guidance on what to teach is "very daunting". "You do expect some framework and guidance to follow," he says. "We could get to 2014 and find that everything we've been working on is not what they want us to do."

Another serious concern, says primary ICT adviser Jodie Lopez Collins, is that though schools already confident in their skills may fly, "the gap will widen between them and those that aren't". The suspension of the ICT curriculum and Gove's accompanying vision of pupils learning to program "ignores the fact that the majority of teachers aren't able to teach digital literacy in any depth," she says. "And the schools that aren't doing very much will think they don't have to bother because there are now no defined requirements."

Lopez Collins believes teachers are being poorly served by messages about ICT that are wildly at odds with other directions they have to follow. "Gove and [Nick] Gibb talk about embedding ICT

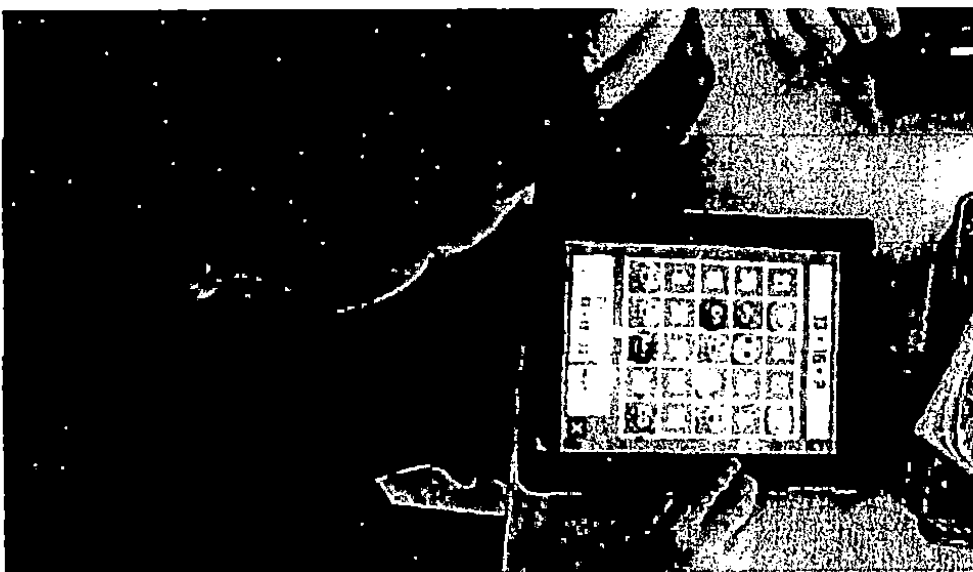
tepat guna digital literasi menuntut para siswa untuk dapat memasukkan kata kunci untuk mencari informasi apa yang mereka butuhkan.

## 2. Konsep Kemampuan Menganalisis dan Mengurai Informasi

Dalam konsep melek media kemampuan menganalisis informasi sangatlah penting. Analisis informasi diperlukan karena begitu banyaknya informasi yang didapatkan hanya dengan mengetik satu kata saja dalam *search engine* di internet. Hal ini menekankan pada kemampuan siswa ketika menerima banjirnya informasi di hadapan mereka setiap hari. Apabila tidak memiliki kemampuan menelaah isi pesan maka yang terjadi *user/siswa* akan tidak akan dapat memilah mana informasi yang penting dan mana informasi yang tidak mereka butuhkan. Dalam laman berikut <http://www.guardian.co.uk/teacher-network/2012/aug/13/schools-secondary-schools> dijelaskan bagaimana media teknologi informasi juga dapat mempengaruhi kemampuan anak-anak dalam menganalisis informasi di hadapan mereka.

### An Apple for the teacher: are iPads the future in class?

**David Andrews** embarked on an iPad journey with his school last year. Here he tells us about using the devices in his classroom.



**iPads in primary school: David's three-year-old daughter helped him to see the potential of using tablets in his classroom. Photograph: Dimitris Legakis/D Legakis Photography/Athena**

**I'm a self-confessed Apple fanatic so I was curious to see how iPads and iPods could be used successfully in a primary school. I was sure they would inspire and encourage the teachers I work with to take a chance and think outside their comfort zone and embrace new technology.**

**But before our school jumped on the iPad bandwagon, I wanted to determine how these devices were going to offer a better learning experience compared to the laptops that we already had in our school.**

**My 'iPad journey' began approximately a year ago, when I bought an iPad 2. I was hooked. My then three-year-old daughter, was also showing an interest. It was at this point that I was beginning to see the huge potential that this device could have in schools. She was learning to count, do simple subtraction and addition problems, recognise different shapes, listen to stories, learn her alphabet, beginning to spell out words and learn how to write letters, all this with very little guidance or support - plus she was having fun learning.**

**Having seen the huge potential of the iPads as an educational tool, I decided to investigate the pros and cons of iPads compared to laptops in the classroom.**

**In my mind these were the pros:**

- **Ease and speed of use and accessibility:** The touch interface and app system on the iPad makes it easy to access learning tools. On a laptop you have to open the lid, turn it on, wait for it to load, log in to your account and then wait for the operating system to load.
- **Audio visual (AV) tools:** The iPad has extremely easy access to AV tools (camera, video and voice recorder) which can be used creatively across countless number of apps. The laptop does have built-in cameras and microphones but they are so much more difficult to use and could require an additional piece of hardware to be connected and installed.
- **Books:** iPads are great for reading. iBooks allow the user to annotate, highlight and look up the meaning of words.
- **Creativity:** The in-built AV tools means that the iPad has endless possibilities to be used creatively in any subject in the school curriculum, it just need imagination. For example there are apps for drawing, editing photos, creating movies, ebooks, animations and photo stories, composing music, writing graphical novels and other useful creative apps. In addition, many of these apps have the option to publish work to larger audiences online, increasing the incentive for the children to produce quality pieces of work. The laptop doesn't have the same efficiency and ease of use that the iPad has and the touch interface just makes it more fun and interactive.

**And here are the cons:**

- **Adobe's Flash and Javascript:** One of the biggest criticisms of the iPad is its inability to work with Adobe Flash and Javascript. A lot of content in schools is dominated by Flash. Despite this, it could be argued that the iPad easily makes up for this restriction with a huge selection of apps.

kept open, side-by-side unlike on computers, although there are apps that allow multiple pages to be open side by side.

- **Word processing:** The iPad is quite limited as a device that you would use regularly to word process on. I much prefer to type lengthy documents on my computer, where I can switch quickly between browser, word processing and email. Despite this I still use the iPad regularly for light writing such as emails and Twitter.

The next part of the iPad journey was to get these tablets into the hands of the teachers and provide adequate training and support.

It was decided after numerous discussions that all 23 teachers should have their own iPad first before a big investment for the future was made. This decision was not made lightly, but it was decided on the basis that if this handheld technology is going to have maximum impact throughout the school, from the nursery through to Year 6, then teachers had to be confident with this technology.

Initially, five members of staff (head, deputy, phase leaders and ICT co-ordinator) were given an iPad. This was a chance for them to discover apps, become confident with the device, to make sure that an investment in this technology was going to be worthwhile and ultimately how they could use the iPad to impact children's learning. All the teaching staff (23) were given iPads as it was agreed if this device was going to have maximum impact in the school then teachers had to be confident with this technology.

The apps that were put onto teacher's iPads had been thoroughly researched, as the app store can be a daunting place searching for appropriate apps for educational purposes. These apps are by no means an exhaustive list and I envisage them constantly evolving. To aid teachers in their choices in apps I collected useful apps by subject area, including apps for creativity, teachers and children with special education needs. Below I've listed a selection of my top 10 apps for creativity, as I feel these can have the biggest impact on teaching and learning in the classroom:

**iMovie:** add video, photos, music and sound effects and trim the length of any clip. You can create trailers with immersive graphics and original scores, build polished projects with themes, record and edit soundtracks.

**Creative Book Builder:** add paragraphs, images, videos, audio recording and links. You can also add page breaks with chapters, change font and preview in iBooks.

**GarageBand:** turns your iPad into a collection of touch instruments and a full-featured recording studio. Play pianos, organs, guitars, drums and basses, which sound and play like their counterparts, but let you do things you could never do on a real instrument.

**Strip Designer:** create comic strips using photos from your photo album. Select one of many

**Explain Everything:** easy-to-use design tool that lets you annotate, animate and narrate explanations and presentations. Create interactive lessons, activities, assessments and tutorials.

**Sketch:** use shapes, arrows, sketches and text annotation on photos, screenshots, maps and web pages then share them.

**Videoscribe:** create animated videos that replicate the stop-motion capture style of drawings that's so popular on commercials.

**SonicPics:** turns your images into a custom slideshow movie. Add voiceover narrating your image as you swipe through them.

**Brushes:** features advanced colour pickets, several realistic brushes, multiple layers, extreme zooming and a simple interface. Records all your actions when painting.

**I Can Animate:** capture frames using the in build camera, displays onion skinning, undo support, preview whole projects and then add to an iMovie project for a really polished movie.

You can read example case studies on how apps can be used creatively at:

[www.mrandrewsonline.blogspot.co.uk](http://www.mrandrewsonline.blogspot.co.uk)

As I only really managed to scratch the surface of the apps on the teachers iPads in the training session, it was decided that we should ask other teachers to get involved to share their knowledge of an app because teachers were clearly embracing this technology. For example, one teacher had done some fantastic artwork using Brushes, one had created some great iMovie trailers with his children and another had created his own music in GarageBand. This creativity had to be shared.

Therefore, throughout the summer-term every Monday during our staff meeting I timetabled teachers to share an app with the rest of the staff.

Giving the teaching staff time to become familiar and sharing good practice using the iPads has been a great success. Seeing the potential these devices could have on teaching and learning has meant the school has now invested in a managed wireless system, 16 iPads with a syncing/charging trolley in both key stage one and two and 62 iPods with syncing/charging units to be used in year six.

Starting in September I plan to use both iPads and iPods creatively, by using a combination of apps, which can be used across the curriculum to engage, motivate and inspire children's learning in the classroom. I want the children in my class to create content, not necessarily always accessing it. If the iPads don't enhance the learning of the children that I teach, then I shouldn't be using them.

*David Andrews has been teaching for seven years, spending the past six years at Spring Cottage Primary School Hull in Year 6. David blogs here and tweets as @dmandrews15*

### 3. Konsep ketrampilan produksi media

Program literasi media dilakukan dengan mengambil titik fokus yang berbeda-beda. Beberapa program menitik beratkan pada analisa media dengan cara memberikan ketrampilan mengenai pemahaman dan upaya interpretasi dalam suatu pesan media. Ada pula program literasi media yang berdasarkan pada ketrampilan produksi media, biasanya menitik beratkan pada penguatan komunitas. Jenis program yang lainnya menggunakan literasi media sebagai cara untuk memahami infrastruktur ekonomi media massa, sebagai kunci dalam konstruksi sosial pengetahuan umum (Aufderheide 1997).

Dalam konsep yang ketiga ini The Guardian sebagai bagian dari organisasi yang memiliki concern pada pendidikan melek media menekankan pada bagaimana siswa harus memiliki kemampuan dalam “menghadapi teknologi”. Seperti yang tampak pada halaman websitenya berikut ini <http://www.guardian.co.uk/education/mortarboard/2012/nov/13/ict-computing>.

#### < Digital literacy >

The Guardian's campaign to upgrade computer science and IT in schools



Supported by Google

#### New ICT curriculum proposed by Royal Academy of Engineering and BCS

Digital literacy, computer science and information technology should





Pupils at a secondary school in Worcestershire. Photograph: Alamy

A new ICT curriculum is on the cards for the UK, which could change this subject from one perceived as relatively dull and for boys only to one fit for the 21st century, creative, pervasive and designed for all – from children at key stage one through to mobile app programmers working at A-level standard and beyond.

Nine months ago Michael Gove, the education secretary, scrapped the existing curriculum for Information and Communication Technology (ICT) and proposed giving schools the freedom to create their own curricula for the subject.

This new draft, which has not been endorsed by the Department for Education, is one of the results, representing the expert advice of a working party that coordinated input from a range of stakeholders.

The rough draft is innovative, refreshing, and exciting. Bill Mitchell of BCS (the Chartered Institute for IT), which along with the Royal Academy of Engineering has worked on the new curriculum since August, said at a recent Google and Guardian event in London: "What we are trying to do is get a curriculum that sets the destination of travel."

And the draft ICT programme of study is doing just that, looking ahead to the end goal for each key stage. Digital literacy, computer science, and information technology rather than just ICT should all be taught from the start of a child's education at KS1 (children aged five to seven years old) through to KS3 (ages 11 to 14), like the sciences at primary school, say BCS and the Royal Academy of Engineering, while KS4 students (aged 14 to 16) should be able to specialise in an area of ICT, again as is possible in the sciences.

Speaking at the Google and Guardian event, others gave their opinions on where the new curriculum needed to go and the challenges being faced. Matthew Harrison of the Royal Academy of Engineering commented that neither computer science nor digital literacy are the

answer in themselves, as both are needed to ensure the full gamut of learners advance in the classroom and marketplace.

"It's been fashionable to get on the computing bandwagon over the last 18 months," said Harrison. "However, with some politicians there has been a tendency to rubbish everything that has gone before; that is wrong. Digital literacy is needed for everyone. Schools are not the full picture. Computer science is not the full picture. Digital literacy is still needed, but you don't progress to a high level of jobs and skills on digital literacy alone; you need computer science to get there."

ICT in all its guises is not enough when it stands alone, agreed Alex Hope, the managing director of visual effects company Double Negative and co-author of the Next Generation Skills Report. Creativity was required, not just logic: "We need rigorous teaching of computing in schools, but fusing art and technology together. We need to be creators of technology, making games or fighting cyber-crime, rather than just passive users of it. We need an education system that allows art and science to be taught alongside each other; those countries who allow this to happen will grow and thrive, and those that don't will be passive consumers."

The draft pulls ICT into a broader space, allowing students to be creative and inventive. It defines digital literacy as "the ability to access, use, and express oneself using digital technology, including a critical understanding of technology's impact on the individual and society". Information technology "covers the use and application of digital systems to develop technological solutions purposefully and creatively", while computer science "is the subject discipline that explains how computer systems work, how they are designed and programmed, and the fundamental principles of information and computation".

Among other competencies, KS1 students should be taught to use software on a range of devices, to create, manipulate and evaluate digital media in a range of formats, and understand what algorithms are for (they are a process of steps for solving a problem or carrying out a procedure) and that these are implemented as programmes on digital devices, as well as use that knowledge of algorithms to write simple programmes.

On the KS2 (ages seven to 11) agenda, as well as much else, students should be able to write programmes to accomplish goals, solve problems by dividing them into smaller parts, and recognise that there may be more than one algorithm to solve a single problem, as well as detect and fix errors in algorithms and programmes. They should also be able to use "if ... then ... else" and loop structures in algorithms and programmes, and use variables and tables to store and retrieve and manipulate data.

For KS3 students, the list of achievements includes the ability to select, use and assemble multiple applications across a range of devices to achieve complex goals, including analysing data and meeting the needs of known users, and create, reuse, revise and repurpose digital content with attention to design and audience. They must also be able to represent the relevant aspects of a problem as abstractions that can be described within a programme, including a

Altogether, the draft represents an impressive set of goals that will push and stretch students, fully engaging them in interesting, creative tasks that will result in a bevy of skills.

Yet changing the ICT curriculum to give more weight to valuable subjects such as computer science, digital literacy, and information technology, to encourage young women as well as men to pursue these subject areas actively, to turn the UK into a melting pot of talent for programmers and designers in gaming, mobile applications and internet security, and computer generated imagery for the film industry, is only the start.

A lot more than just the curriculum needs to change to get this glacial evolution moving, and much of that will come about through the integration of support, ideas and resources from schools and places of further education, plus industry and the corporate world. In a country where family economics creates a massive disparity between the children that have a now fully commoditised resource such as the internet at home, and those that do not, there is a lot to change; as Teach First, the organisation that recruits teachers for low-income communities, says, no child's educational success should be determined by their economic background.

They may be slow, but glaciers get there in the end and are breathtaking in their mass and grandeur. This is only the beginning for British ICT.

• *Heather McLean is a freelance editor, journalist and writer who specialises in communications technology, education and business*

Dalam website tersebut The Guardian menyatakan dalam menghadapi banjirnya informasi yang didapat siswa melalui internet, maka langkah pertama yang harus dilakukan oleh siswa adalah menguasai teknologi itu sendiri. Dengan menguasai perangkat lunak maka melek media akan dapat terjadi. Melek media tidak hanya dalam tahapan mencari pesan namun juga memproduksi kembali pesan dalam medium internet.

Hal ini sejalan dengan yang diungkapkan oleh (Aufderheide 1997) bahwa ketrampilan menghadapi media menuntut audiens untuk lebih menguasai teknologi sehingga tidak akan hanya tenggelam dalam mengkonsumsi media namun juga memproduksi pesan, dengan begitu

... ..