The Knowledge-Gap Hypothesis

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The Knowledge-Gap Hypothesis

- The knowledge-gap hypothesis theory suggests that each new medium increases the gap between the information rich and information poor, because of differences in access to the medium, and control over its use, among other factors.
The Knowledge-Gap Hypothesis

- It was first proposed by Phillip J. Tichenor and his colleagues. The concept of a digital divide is linked to this hypothesis, although its development was independent.
- In the article, "Mass media flow and differential growth in knowledge" that Tichenor and his colleagues proposed in 1970, it is clear to describe "knowledge gap hypothesis":
- As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease.
The Information-poor Questions

- How do I get my baby into a day-care center?
- Whom do I talk to get rid of rats?
- My husband walked out on me three weeks ago. What do I do?
- How do I know if I have lead-based paint on the walls?
- There is a gang of kids terrorizing the neighborhood. Where do I turn?
- My daughter has been acting funny lately. Can anyone help?
The Prototypal Disadvantaged American

- Does not know which formal channels to tap in order to solve his problems, or what specific programs exist to respond to his need.
- Watches many hours of television daily, seldom reads newspapers or magazines, and never reads books.
- Does not see his questions as information needs; is not a very active information seeker, even when he does undertake a search.
The Role of Mass Media

Television Program Sesame Street

- **Sesame Street**
  First broadcast in 1969 to reach a large audience of children and hold their interest by combining information and entertainment in a new format.
The Role of Mass Media

Figure 12.1 The knowledge-gap hypothesis.

that the gap in knowledge between these segments tends to increase rather than decrease. (pp. 159–160)
The Role of Mass Media

Core Assumptions and Statements

- The knowledge gap can result in an increased gap between people of lower and higher socioeconomic status. The attempt to improve people’s life with information via the mass media might not always work the way this is planned. Mass media might have the effect of increasing the difference gap between members of social classes.
The term digital divide refers to the gap between people with effective access to digital and information technology and those without. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen. In other words, it is the unequal access by some members of society to information and communications technology, and the unequal acquisition of related skills.

The digital divide may be classified based on gender, income, and race groups, and by locations. The term global digital divide refers to differences in technology access between countries or large regions of the world.

2. At a given time, there should be a higher correlation between acquisition of knowledge and education for topics highly publicized in the media than for topics less highly publicized.
The Role of Mass Media

Conceptual Model

Source: Tichenor, Donohue and Olien, 1970.

This example shows that education level or socioeconomic status made a difference in knowledge. The question was whether or not respondents felt astronauts would ever reach the moon. Those with high levels of education (based on three levels: grade school, high school and college) were more likely to agree that man would reach the moon than those with lower levels of education both at a certain point in time and over all four intervals. Most important was that the gap between levels widened over time in that the percentage of respondents in the high education level who agreed rose more than 60 percentage points over 16 years while those in the low education category rose less than 25 percentage points.
Core Assumptions and Statements

- Tichenor, Donohue and Olien (1970) present five reasons for justifying the knowledge gap. 1) People of higher socioeconomic status have better communication skills, education, reading, comprehending and remembering information. 2) People of higher socioeconomic status can store information more easily or remember the topic form background knowledge. 3) People of higher socioeconomic status might have a more relevant social context. 4) People of higher socioeconomic status are better in selective exposure, acceptance and retention. 5) The nature of the mass media itself is that it is geared toward persons of higher socioeconomic status.
<table>
<thead>
<tr>
<th>Area</th>
<th>First Article Read</th>
<th>Second Article Read</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More-Publicized</td>
<td>Less-Publicized</td>
</tr>
<tr>
<td></td>
<td>Topics</td>
<td>Topics</td>
</tr>
<tr>
<td>Medicine and</td>
<td>$r = 0.109$</td>
<td>$r = 0.32$</td>
</tr>
<tr>
<td>Biology</td>
<td>$(N = 84)$</td>
<td>$(N = 111)$</td>
</tr>
<tr>
<td></td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>$r = 0.278$</td>
<td>$r = 0.228$</td>
</tr>
<tr>
<td></td>
<td>$(N = 104)$</td>
<td>$(N = 93)$</td>
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<tr>
<td></td>
<td>$p &lt; 0.01$</td>
<td>$p &lt; 0.05$</td>
</tr>
</tbody>
</table>

POSSIBLE REASONS FOR A KNOWLEDGE GAP

Why should the knowledge-gap hypothesis be expected to be true? Tichenor, Donohue, and Olien (1970) present five reasons

1. **There is a difference in communication skills between those high and low in socioeconomic status.** There is usually a difference in education, and education prepares one for such basic information-processing tasks as reading, comprehending, and remembering.

2. **There is a difference in the amount of stored information or previously acquired background knowledge.** Those of higher socioeconomic status might already know of a topic through education, or they might know more about it through previous media exposure.

3. **People of higher socioeconomic status might have more relevant social contact.** That is, they might associate with people who are also exposed to public affairs and science news and might enter into discussions of such topics with them.

4. **The mechanisms of selective exposure, acceptance, and retention might be operating.** Persons of lower socioeconomic status might not find information concerning public affairs or science news compatible with their values or attitudes, or they just might not be interested in such information.

5. **The nature of the mass media system itself is that it is geared toward persons of higher socioeconomic status.** Much of the news of public affairs and science appears in print media, and print media are oriented toward the interests and tastes of higher status persons.
The knowledge gap was used in a research for presidential campaigns. The knowledge gap hypothesis holds that when new information enters a social system via a mass media campaign, it is likely to exacerbate underlying inequalities in previously held information. Specifically, while people from all strata may learn new information as a result of a mass media campaign, those with higher levels of education are likely to learn more than those with low levels of education, and the informational gap between the two groups will expand. The results of the analysis show that knowledge gaps do not always grow over the course of presidential campaigns and that some events, such as debates, may actually reduce the level of information inequality in the electorate.

Example

- Source: Holbrook (2002)
The Knowledge Gap in Public affairs
Figure 12.3  Radio audience for a speech by President Roosevelt, by socioeconomic status. Source: Adapted from P. F. Lazarsfeld, Radio and the Printed Page (New York: Duell, Sloan and Pearce, 1940), p. 28.
Table 12.2  Pretest and Gain Scores on Battery of Achievement Tests by Amount of Sesame Street Viewing and Background

<table>
<thead>
<tr>
<th>Background</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>76</td>
<td>86</td>
<td>94</td>
<td>101</td>
</tr>
<tr>
<td>Pretest</td>
<td>19</td>
<td>31</td>
<td>39</td>
<td>48</td>
</tr>
<tr>
<td>Gain</td>
<td>76</td>
<td>84</td>
<td>87</td>
<td>97</td>
</tr>
<tr>
<td>Disadvantaged</td>
<td>19</td>
<td>29</td>
<td>37</td>
<td>47</td>
</tr>
<tr>
<td>Pretest</td>
<td>95</td>
<td>102</td>
<td>113</td>
<td>110</td>
</tr>
<tr>
<td>Gain</td>
<td>27</td>
<td>38</td>
<td>40</td>
<td>45</td>
</tr>
</tbody>
</table>

Refinement of The Hypothesis

- Dononue, Tichenor, and Olien (1975)
- 1. When there is perceived conflict over a local issue, the knowledge gap is likely to decline. (e.g. Diao Yu Island)
- 2. Widening knowledge gaps are more likely to occur in pluralistic (多元化) communities with numerous sources of information than in homogeneous communities with informal but common communication channels.
- 3. When an issue has immediate and strong local impact, the knowledge gap is likely to decline.
The Knowledge-Gap Hypothesis

**Favorite Methods**
Surveys of mass media and tests of knowledge.

**Scope and Application**
Media presenting information should realize that people of higher socioeconomic status get their information in a different way than lower educated people. Furthermore, this hypothesis of the knowledge gap might help in understanding the increased gap between people of higher socioeconomic status and people of lower socioeconomic status. *It can be used in various circumstances.*
Figure 12.5 Posttest achievement scores for advantaged and disadvantaged children at four levels of viewing of Sesame Street. Source: Adapted from N. Katzman, “The Impact of Communication Technology: Promises and Prospects.” Journal of Communication 24, no. 4 (1974): 55.
New Development in Knowledge Gap

Causes of Knowledge Gaps particularly education, socioeconomic status, motivation, and interest---and knowledge gain.

Griffin (1990), Motivation: energy information- People who are less well-off, older, and living in older homes show an information deficit.

- Knowledge gaps may getting worse, not better.
- Our understanding of knowledge gap probably remain incomplete in internet age.
New Development in knowledge Gap

- Tom Weir (Hierarchy of Information-seeking Behavior) 当人的需求与信息所处位置无关紧要时，就产生知识沟。

- 信息寻求行为等级图（娱乐需求从下到上贯穿）
  - 随意浏览
  - 充实发展
  - 知识追求
  - 维持/营养
  - 存活与安全
Criticism of The Hypothesis

- Dervin (1980) criticized the knowledge gap for being based on the traditional source-sending-messages-to-receiver paradigm of communication. This approach leads to “Blaming-the-victim” syndrome. The research should be more user-based.

- Evatt (1998) argued that researchers conducting knowledge gap studies should be sure the information they are testing with surveys is useful and relevant for the audience being studied.
OVERCOMING KNOWLEDGE GAPS

Communicators interested in helping to bridge knowledge gaps can take several steps. Viswanath and colleagues (1993) suggest that strategies to involve people in groups may help to overcome knowledge gaps. Another useful technique is to identify the target audiences for a particular communication campaign and then design messages to reach each audience. For instance, Frankenberger and Sukhdial (1994) recommend segmenting a teenage audience for AIDS communication into various groups depending on race and risk factors. They recommend targeting each group with messages and media that are appropriate to that group. McLeod and Perse (1994) suggest that journalists interested in reducing the knowledge gap should highlight the utility of information they present. Zandpour and Fellow (1992) point out that simply putting important messages in both Spanish and English can sometimes help to reduce knowledge gaps.

- A case in point is an AIDS patient in your primary group will make you bridge the knowledge gap of AIDS.
Overcoming Knowledge Gap

- Perhaps a well-known celebrity involved in the dissemination of information could help achieve wider visibility for and acceptance of the information.
- Perhaps a knowledge gap could be overcome if an infusion of information into a population was massive enough. A panel or discussion are all good ways for this.
- Interest and motivation.
The Knowledge-Gap Hypothesis

- **Media richness theory**, sometimes referred to as information richness theory, is a framework that can be used to describe a communications medium by describing its ability to reproduce the information sent over it. For example, a phone call will not be able to reproduce visual social cues such as gestures. This makes it inferior to video conferencing, which is able to communicate gestures, at least to some extent. More specifically, media richness theory states that the more ambiguous and uncertain a task is, the richer format of media is suitable to it. It is based on contingency theory and information processing theory. Essentially, it explains that richer, more personal means of communication are generally more effective at communication than leaner, less rich media.
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Interest and motivation.
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<thead>
<tr>
<th>People who have not used the Internet are missing something really special</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9</td>
<td>26.8</td>
<td>34.6</td>
<td>7.9</td>
<td>26.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Internet is grossly overrated</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9</td>
<td>36.7</td>
<td>31.3</td>
<td>3.9</td>
<td>24.2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I was offered a job which provided unrestricted Internet access, I would regard this as a major plus</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>42.2</td>
<td>22.7</td>
<td>2.3</td>
<td>20.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I hardly ever use e-mail</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.4</td>
<td>21.9</td>
<td>6.2</td>
<td>17.2</td>
<td>38.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I hardly ever use the World Wide Web</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral/undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>26.6</td>
<td>9.4</td>
<td>13.3</td>
<td>40.6</td>
<td></td>
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